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EDITORIAL.

THE meeting of the American Pharmaceutical Association, at Saratoga, of which we give an account elsewhere, was one of the most successful that has been held since the organization of that body. The attendance was large; the nature of the business important; the number of admissions to membership quite unusual; the social elements of the gathering extremely enjoyable, and the exhibition of chemical and pharmaceutical wares and sundries of very remarkable excellence and interest. Owing to the want of space, we are obliged to postpone our description of the last-named feature of the meeting until next month.

On the last page of this number will be found a portrait and brief biography of the president-elect, Mr. James Thornton Shinn, of Philadelphia, whose merits as a pharmacist and fitness for the office of President are unquestioned.

We hope that the meeting to be held next year at Kansas City, Mo., may be equally successful.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

[ORIGINAL COMMUNICATION.]

NOTE ON TURPENTINE, ROSIN, AND ALLIED PRODUCTS.

BY THOMAS F. WOOD, M.D.

OF the turpentine collected in this district very little is shipped north. Most all of it is distilled upon the water courses near the pine forests. The small quantities of crude turpentine now sent north are used in making printers' ink.

Turpentine is distilled in copper stills now. Formerly iron stills were used. Then the resulting oil was red. When the first copper still was used in Wilmington, the clear uncolored oil shipped north was rejected, because it was not considered genuine "spirits."*

All crude turpentine is distilled with water. The part which water plays in the process will be seen hereafter.

The present distinctions as to the grades of rosin are somewhat different from *yellow* and *transparent*.

It is not the presence of water which makes rosin *yellow*. If water gets into rosin, which it does sometimes by accident, the rosin becomes opaque. All the better grades of rosin are yellow or amber color, more correctly; but the term "yellow rosin" is not used here commercially or otherwise. The grade of the rosin depends, *first*, upon the quality of the turpentine, and, *second*, upon the skill in distilling. "Virgin turpentine," the first exudation from a newly chipped tree, if skilfully distilled, will yield "window-glass rosin," of which there are two or three grades. If by any means water gets into prime rosin it becomes opaque. This accidental addition of water must take place after the rosin has been drawn off from the still.

"Yellow dip" turpentine, which is the running of the second and subsequent years, yields the medium grades of rosin; while the "scrapings," the inspissated gum from the tree facings, yields an inferior rosin, from very dark to almost black. The black rosin is not due to burning in the still, as has been stated.

Anhydrous rosin is the greater part of the stock produced; the opaque rosins, being accidental, are limited.

The following description of the process of distillation may explain further.

A fifteen-barrel copper still (barrel weighing 220 lbs. each) is charged early in the morning. Heat is applied until the mass attains a uniform temperature of from 212° to 316° F. This is continued until the accidental water, that is the

* The commercial name for oil of turpentine.

water contained in the crude turpentine as it comes from the forest, has been driven off.

The first product distilled over is pyroligneous acid, formic acid, ether and methylic alcohol, with water. This is known as *low wine.*

All the accidental water having been distilled off, a small stream of cold water is now let in, so that the heat is kept at or below 316° F., the boiling point of oil of turpentine. The oil of turpentine and water now come over, and the mixture is caught in a wooden tub. This tub is constructed as follows (see page 291):—

The distillate is caught at *A* from the still, and separates into water and oil. At *B* there is an overflow spout, which discharges into the tub *D*. The water is kept low enough in the lower part of the tub to prevent its overflowing through the cock *B* into the receptacle *D*. From this receptacle it is put into oak casks, well made with iron hoops, and securely glued inside.

The distiller tests the quality of the flow from time to time in a proof glass. The distillation is continued until the proportion of fluid coming over is 9 of water to 1 of oil of turpentine. At this stage the heat is withdrawn, the still-cap is taken off, and the hot rosin, which remains in a fluid state in the still, is drawn off by a valvular cock at the side of the still near the bottom.

This rosin passes through a strainer, before it reaches the vat, to rid it of foreign substances, such as straw, pine cones, chips, etc. From the vat it is bailed by wooden buckets, fixed on a long handle, into the barrels.

Rosin is graded by standard samples fixed upon by the "Produce Exchange."

The yield of oil of turpentine from "virgin dip" is about 6 gallons to barrel.

The yield of oil of turpentine from "yellow dip" is about 4 gallons to barrel.

The yield of oil of turpentine from "scraping" is about 2 gallons to barrel.

Other products now attract our attention, viz., the distillation of *Rosin Oil.*

The rosin oil of commerce is produced in the following way: Rosin is introduced into an iron still, the lower grades being used for this purpose, and heat is applied until the temperature reaches from 316° to 320° F. Water and pyroligneous acid and naphtha come over first, and for some time, until the rosin is exhausted of naphtha. The heat is then raised to near the red heat of iron, when the rosin boils, and water and *oil of rosin* distil over together. This i crude rosin oil. It is a heavy, nearly opaque, whitish viscid fluid, opalescent on the surface.

This crude *rosin oil* is rectified by redistillation, and the resulting oil is transparent, dark-red by transmitted light, with a decidedly bluish cast by reflected light. It is deeply opalescent, more so than petroleum oil.

Collecting Turpentine.

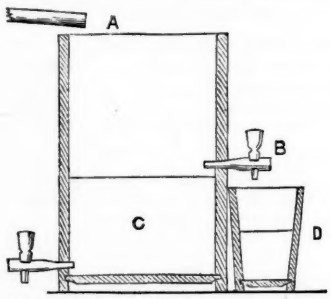
A Turpentine Still.

The residuum left in the still is a black mass with a shining fracture, giving the hues of crystal aniline.

Other products still remain to be spoken of, viz., *Naphtha* and *Oil of Tar.*

Tar when distilled yields pyroligneous acid, water, *naphtha* or spirits of tar, and *oil of tar.* The naphtha, when purified by a second distillation, is clear and of a very pleasant terebinthinate odor. The *oil of tar* comes over in the latter part of the process, and a black residuum remains in the still resembling pitch. All but the last-named of these articles have a commercial value.

Tar is distilled in iron retorts, just as rosin is. There are many complex bodies which have come to the attention of the manufacturers during their operations. Some of them have been very intelligently worked out and identified by Mr. William A. Martin, the chemist of the works we have visited. Some remain to be investi-



Tub for separation of turpentine from water.

gated. Terebinthine products have always been exceedingly interesting chemically, and just now we are moving towards practical commercial results. I am expecting to announce, at no distant day, that we have made a sure step in the right direction.

WILMINGTON, N. C.

[NOTE by ED. N. R.—This paper is written partly in answer to questions, suggested by Prof. Flückiger, respecting some points connected with the manufacture and commerce of crude turpentine and of rosin. Flückiger and Hanbury, in *Pharmacographia*, 2d ed., p. 606, say: "Although a large amount of turpentine is shipped to the northern ports for distillation, a still larger is distilled in the neighborhood of the turpentine orchards. Copper stills are used, capable of containing 5 to 20 barrels of turpentine. The turpentine is distilled *without water*, the volatile oil as it flows from the worm being received in the barrel in which it is afterwards sent to market. When all the oil that can be profitably drawn off has been obtained, a spigot is removed from an opening in the bottom of the still, and the residual *rosin*, appearing as a viscid fluid like molasses, is allowed to flow out. Only the first qualities of rosin, that obtained from *Virgin Dip*, are generally considered worth saving, the less pure sorts being simply allowed to run to waste. When it is intended to save the rosin, the latter is drawn off into a vat of water which separates the chips and other rubbish, and the rosin is then placed in barrels for the market." . . . p. 607: "When crude turpentine is distilled with water, nearly the whole of the oil passes over while the resin remains. This resin is called *Colophony* or *Rosin*. When it still contains a little water, it is distinguished in English trade as *Yellow Rosin;* when fully deprived of water, it becomes what is called *Transparent Rosin*. That of deeper color acquired by a still longer application of heat bears the name of *Black Rosin*."]

Resorcin and its Therapeutic Uses.

[Abstract of a pamphlet by DR. JULIUS ANDEER, of Würzburg.]

(Continued from page 270.)

Pharmacological Effects of Resorcin.—1. In abnormal fermentative processes, which are usually termed "putrefactive," it has proved to be a good antiseptic.

2. A 1% solution of resorcin prevents the decomposition of pancreas, blood, urine, and other easily putrescible substances. They retain their natural odor.

3. A 1% solution of resorcin soon arrests already existing decomposition; whether this is accomplished by a direct destruction of the cause of decomposition or by coagulating the fluid which nourishes it has not yet been determined.

4. In *septic* processes artificially produced in animals, resorcin (in 1% solution) acts, without local or constitutional effect, just as well as carbolic acid, without sharing the disadvantage of the latter, or of pyrogallic acid, to be absorbed by the circulation, and thereby causing an injury of its own.

Stab or cut wounds, purposely made in animals, if treated with a 1% solution of resorcin, always heal by first intention.

6. Wounds of the cornea, conjunctiva, gums, and other mucous membranes which are artificially irritated and infected by micro-organisms, after being cauterized with resorcin, heal quickly without permitting the development of vital pathogenous germs or bacteria below the scab.

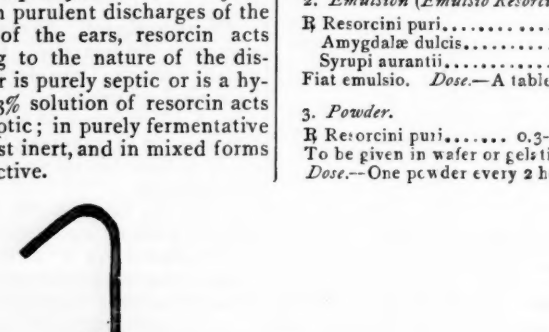
7. Artificial, subepidermoidal, or cutaneous abscesses or erysipelas yield to a proper treatment with resorcin often in two or three days.

8. Resorcin, in 1–2% solution, has as little effect upon the healthy skin or mucous membrane as pure water, and never causes an eruption.

9. Resorcin is borne as well or better than any other antiseptic, particularly by the organs of respiration, which it does not in the least irritate.

Indications.—Resorcin is valuable in surgical technic in general, and in dental practice especially. It is an excellent remedy by way of inhalation. Administered by spray it neither irritates the eyes of the operator (as carbolic acid does) nor the patient, and is almost odorless in this form. In abnormal fermentative processes of mucous membranes, a 1–2% solution speedily arrests the phenomena. It is also valuable as a caustic for catarrhal, tubercular, and syphilitic sores, in which cases it is best

used in form of crystals applied to excrescences, particularly on mucous membranes; it removes them painlessly, and restores the membrane in 3 to 4 days to its normal condition. In form of powder or crystal it is a *most efficient remedy* in *diphtheritic* affections. A close observation and control of all cases treated for two years past with resorcin has furnished *only* positive results. *The most difficult cases of this disease were cured in at most one week, completely and without injurious consequences.** In purulent discharges of the sexual organs and of the ears, resorcin acts differently according to the nature of the discharge. If the latter is purely septic or is a hypersecretion, a 1 to 3% solution of resorcin acts as an efficient antiseptic; in purely fermentative discharges it is almost inert, and in mixed forms only moderately effective.



Clouth's Acid Pump.

Dose and Mode of Application.—The usual dose for an adult, in mild cases and at the beginning of severe cases, is 1 to 2 grams (15 to 30 grains), in more severe cases 3 to 5 grams (45 to 75 grains) dissolved in 100 gm. (about 3¼ fl. oz.) of water. These doses may be divided and be taken at intervals during the day, as a preventive against toxic influences.

The average *maximum dose* of resorcin, which is about 5 gm. (75 grains), either dissolved in 100 gm. of water or in powder, should only be given in exceptional cases, that is, such where smaller doses have already been given previously with gradual increase, or where the quantity of septic material is comparatively large.

For exhibition in *fluid* form the best vehicles are alcohol, glycerin, and syrup of orange. But it is preferable to exhibit it in powder inclosed in wafer or gelatin capsules, whereby its peculiar taste is completely masked. The following formulæ can be recommended:

1. *Mixture* (*Mistura Resorcini*).

℞ Resorcini puri.....	0.5 gm.	8 grains.
Aquæ destillatæ.....100.0 gm.		3 fl. oz.
Syrupi aurantii..... 30.0 gm.		1 fl. oz.

M. *Dose.*—A tablespoonful every 2 hours.

2. *Emulsion* (*Emulsio Resorcini*).

℞ Resorcini puri.....	0.5 gm.	8 grs.
Amygdalæ dulcis.....20.0 gm.		5 ʒ.
Syrupi aurantii.....30.0 gm.		1 fl. oz.

Fiat emulsio. *Dose.*—A tablespoonful every 2 hours.

3. *Powder.*

℞ Resorcini puri.....	0.3-0.5 gm.	5–8 grains.

To be given in wafer or gelatin capsules.
Dose.—One powder every 2 hours.

4. *Resorcin Gauze*, 1½ per cent.
For 1 kilo (2¼ lb.) of gauze use:

Resorcin.....	15.0 gm.	½ oz. avoid.
Glycerin.....150.0 gm.	5 "	"
Alcohol.....450.0 gm.	1 lb.	"

5. *Resorcin Cotton*, 3 per cent.
For 1 kilo (2¼ lb.) of cotton batting use:

Resorcin.....	30.0 gm.	1 oz. avoird.
Glycerin.....	70.0 gm.	1⅛ oz. "
Alcohol.....	100.0 gm.	3½ oz. "

6. *Resorcin Spray.*

℞ Resorcini puri.....	5.0 gm.	75 grs.
Aquæ destillatæ.....1000.0 gm.		32 fl. oz.

Clouth's Acid Siphon.

THE accompanying cut represents an acid siphon, which is operated by means of a rubber-bellows worked with the foot. The tube, which consists of glass, passes through a rubber-stopper adaptable to various sizes of carboys, and the flow of the acid may at any time be interrupted by turning the faucet near the neck, whereby air is allowed to enter. This apparatus is made and sold by Franz Clouth, Rhenish India-Rubber Works, Vorstadt Nippes near Cologne, Germany. The price is 20 marks.

* The medical profession is to be warned to be careful in trusting to the reports on the effectiveness of such new remedies in diseases like diphtheria, since a case might possibly have been saved by trusting to old and well-tried remedies. Yet if, by careful trials, the profession should come to the same conclusion as the author of the above paper, there can be no doubt but that resorcin would have a great future as a remedial agent.—ED. N. R.

Preparation of Olive Oil.

M. PLANCHUD has made sundry practical experiments on the yield of olive oil. There is an old custom, followed in all olive-producing countries, of placing olives in heaps directly after gathering, to induce fermentation. This method is adopted in Spain, Greece, Syria, and in Provence—indeed, it is universal.

The question comes, is this an ancient prejudice: an empiricial rule-of-thumb proceeding; or is it really a method based upon judicious observation of results? We should at once have been inclined to vote for the wisdom of the old practice, for we believe in traditional experience, though a later and more exact chemistry has not guided its handiwork. Whether right or wrong, the fixed theory has been held that olives which have undergone a sort of fermentation give a better yield of oil.

M. Planchud endeavored to clear up the matter, and to discover whether the increased yield were due to mechanical disintegration, which would afford facility of escape to the fluid, or whether some more potent chemical agency might not be in question. All fermentation depends upon some living being which decomposes and transforms the substances with which it comes in contact, thus some transform sugar into alcohol, which in turn is seized up by mycoderma aceti to be changed into vinegar. May not an analogous action be set up in the partial fermentation of the olive?

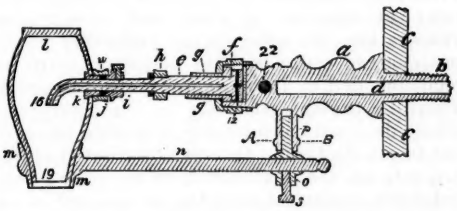
In order to arrive at a conclusion, M. Planchud collected some olives by his own hand, from the same tree, and at the same hour.

These were divided into four lots. The first, reduced to a pulp, dried over the water-bath, and thoroughly washed with carbon disulphide. The second were wrapped in paper, separated from each other, and so left without any fear of fermentation. The third and fourth lots were bottled and heated in a stove from 20° to 25°. Those exposed to the air never showed a trace of vegetation. After 8, 15, 30, and 40 days the proportion of obtainable oil remained always constant. The bottled olives speedily became covered with green mould, which under the microscope had a close resemblance to a penicillium. In about 15 or 30 days they exhaled an excellent odor of olive oil, and invariably gave 3 or 4 per cent more oil than the preceding. But the same olives kept in bottle for two months and a half lost from 5 to 6 per cent of their original oil. The odor was disagreeable, and the vegetation on the surface yellow.

Should this augmentation of oil be attributed to the development of vegetable growth, or to the germs of a ferment which many think preexist in all fruits? In all the experiments of the author he had never observed any augmentation apart from fermentation; and, when the olives were as usual exposed to stove-heat, previously having been dusted over with borate of soda to prevent the development of the mycoderm, the proportion of oil neither diminished nor increased. No advantage was found to be gained from operating on perfectly ripe olives: they gave no better yield than that obtained from the immature fruits.

From all this, M. Planchud was inclined to believe that the heaping the olives together after gathering, in order to induce fermentation, and thereby to promote the yield of oil, was not a vulgar prejudice. Secondly, that this fermentation should not be continued too long, else the yield will be diminished. Thirdly, that the transformation of part of the pericarp into oil was due to the development of a mycoderm of the genus penicillium on the surface of the olive.

Lastly, the author refrains from giving practical directions about the manner of treating the olives for commerical purposes, assuring the reader that each olive proprietor will be sure to adopt such methods as will best suit his individual wants.—*Chemist and Druggist.*



Draft-Tube for Drawing Soda-Water.

WHILE it is desirable in dispensing carbonated drinks to have the means for throwing a fine jet of the fluid forcibly into the tumbler for the purpose of causing a thorough mixture of the sirups, the force of the current must be broken in order that the contents of the glass may not be composed too largely of froth. In order to accomplish this, William P. Clark, of Medford, Mass., has invented the appliance here shown.* Attached to the draft-arm of the dispensing apparatus is a vessel that receives the impact of the stream when the nozzle (16) is directed otherwise than downward, and which directs the liquid into the glass below. When the nozzle points directly downward the stream passes at once into the glass and causes the "churning" effect above alluded to.

The letters and figures relate to other parts of the apparatus covered by the patent.

Characteristics of Aconitine and Allied Alkaloids.

IN connection with the work of revising the present United States Pharmacopœia, the question has arisen whether the substance heretofore denominated "aconitine," and, as such, intro-

* Patent No. 229,304, of June 29th, 1880.

duced into the pharmacopœia of this and some other countries, really deserves this name, or whether it would not be possible to prescribe the use of a more definite, or, if possible, of a chemically pure alkaloid, characterized by reactions which would permit the control of its identity and purity. With a view of obtaining reliable data from the best authority on this subject, the Chairman of the Committee of Revision applied to Prof. C. R. Alder-Wright, Ph.D., of London, whose researches on the alkaloids of aconite have thrown an entirely new light on the subject, and have in a great measure dispelled the obscurity hitherto surrounding them. Prof. Alder-Wright, in answer to this request, kindly furnished the following characteristics.*

Aconitine: $C_{33}H_{43}NO_{12}$ or $C_{26}H_{35}NO_7 \left\{ \begin{matrix} (OH)_3 \\ O.C_7H_5O \end{matrix} \right.$

This alkaloid appears to be the chief, if not the only active alkaloidal ingredient in the roots of *A. Napellus*, occurring therein together with amorphous alkaloids of lower molecular weight, and containing a higher percentage of carbon. From these alkaloids the free base partially separates by solution in ether and spontaneous evaporation, the ether being preferably previously mixed with very light petroleum spirit, as recommended by Duquesnel. If the amount of aconitine present relatively to the amorphous alkaloids is not considerable, it is often impossible to get the former to crystallize out at all (at any rate on the small scale); in any case a considerable amount of aconitine is retained in solution permanently by the agency of the amorphous alkaloids which thus cause considerable loss; much as alkaline salts do in the case of sugar crystallization. Even after repeated crystallizations from ether or ether-petroleum spirit, aconitine retains mechanically minute quantities of the amorphous bases which, however, can be wholly eliminated by conversion into a salt, crystallization thereof, and regeneration of the alkaloid (by treatment with an alkali and crystallization from ether) from the salt thoroughly freed from the mother liquor, which contains the amorphous base as salt; the hydrochloride, hydrobromide, and nitrate are salts answering well for this purpose, especially the two last.

When perfectly pure, aconitine melts in a capillary tube at 183°–184° C. (corrected), the melting point being lowered by presence of amorphous bases; the final complete melting is preceded by a slight fritting, beginning a few degrees below the melting point, and is accompanied by only very slight darkening with the pure base, with more if impure.

This test, together with the following, constitute the two simplest criteria of purity: the alkaloid to be examined is dissolved in a few drops of some dilute acid, some pure ether added, and then some sodium carbonate solution in excess, and the whole well agitated in a stoppered bottle; the ethereal solution is decanted and allowed to evaporare spontaneously; when only a small quantity is left, this is decanted from the crystals that have formed into another vessel and allowed to evaporate to dryness. If the aconitine were tolerably pure, the last drops of ethereal mother liquor will dry up to crystals; but if more than minute quantities of amorphous bases were present, these will accumulate in the mother liquors, the last portions of which will dry up, not to crystals, but to a varnish or gum-like mass.

The gold salt of aconitine should not darken on drying over sulphuric acid in the dark (presence of amorphous alkaloids often causes decomposition to a small extent on drying); after desiccation, first over sulphuric acid till visibly dry, and finally in the water-bath, it should contain a trifle under 20 per cent of gold (theoretical percentage 19.92). If the base contain traces of amorphous alkaloids, the gold percentage is a little higher, specimens purified only by crystallization from ether generally containing 20.2 to 20.3 per cent of gold.

On heating for some hours to 100° in a closed vessel with alcohol and a little caustic potash, aconitine should yield close to 19 per cent of benzoic acid (theoretical percentage 18.92) which can be extracted and estimated by evaporation of the alkaline fluid to dryness, solution in water, treatment with hydrochloric acid and ether, and spontaneous evaporation of the ethereal solution, with purification of the residue from resinous by-products if necessary. The acid thus formed should not produce any substance capable of giving a green color to ferric chloride on fusion at 250° with caustic potash, and treatment of the "melt" with hydrochloric acid and ether and evaporation to dryness of the ethereal solution (indicates freedom from pseudaconitine).

Pure aconitine should contain close to the theoretical amounts of carbon and hydrogen, viz., 61.39 and 6.67 per cent respectively. These analytical figures are the only reliable means of distinguishing aconitine from the closely allied alkaloid recently described under the provisional name japaconitine (*vide infra*), which agrees very closely with aconitine in all the other above-named points.

Pseudaconitine:

$C_{36}H_{49}NO_{12}$ or $C_{27}H_{37}NO_8 \left\{ \begin{matrix} (OH)_3 \\ O.C_9H_9O_2 \end{matrix} \right.$

The chief if not the only active ingredient in *A. Ferox* roots; considerably less easily crystallizable than aconitine. Melting point when pure, 104°–105° (not very distinctly marked, fritting commencing a few degrees lower). No darkening accompanies the final fusion. No conclusions as to purity can be drawn from the incom-

* Also published, since the receipt of Prof. Wright's letter, in the *Pharm. Journal and Trans.*

plete crystallizability of the base (or of its nitrate), as infinitesimal amounts of impurity, too small for analytical determination, and other circumstances greatly affect the crystallizing power. Should yield on "saponification" with alcoholic potash near to the theoretical amount of veratric (dimethyl-protocatechuic) acid,

$C_6H_3\begin{cases} O.CH_3 \\ O.CH_3 \\ CO.OH \end{cases}$ (viz. 26.49 per cent) especially

after purification of the acid formed from resinous by-products; and should give analytical numbers near to the following theoretical values:

Carbon in base (anhydrous), .	62.88 per cent.
Hydrogen, ...	7.13 "
Gold in gold salt (anhydrous),	19.10 "

Slightly higher percentage of gold being found (as with aconitine) when the base is only purified by crystallization from ether, and hence retains minute quantities of the amorphous bases occurring together with it in the roots.

Japaconitine: $C_{66}H_{88}N_2O_{21}$.

Provisional name applied to a base occurring in aconite roots (query as to species) recently imported into England from Japan. First examined by Paul and Kingzett, who attributed to it the formula $C_{39}H_{43}NO_9$. Exhibits very close similarity to aconitine, furnishing almost exactly the same amount of benzoic acid on saponification (theoretical percentage 19.60), and melting at almost the same temperature, but slightly higher (184°–186° instead of 183°–184°, corrected). Crystallizes from ether like aconitine, furnishes similar salts, and can only be distinguished conveniently by analytical numbers, the theoretical values being uniformly higher than with aconitine; viz.,

Carbon in free base, . .	63.67 per cent.
Hydrogen, ...	7.07 "
Gold in gold salt, . . .	20.39 "

Remarks.—Prof. Wright, in a letter accompanying the above, states that no method is at present known by which the value of the commercial partially pure or highly impure (as the case may be) uncrystallizable "aconitines" can be determined, on the small scale at any rate. However, by slow evaporation of an ethereal solution of a moderately large quantity of such a substance, a portion may sometimes be obtained crystallized; but the amount of crystals obtainable is not much due to the physiological activity. That is, even if there is a considerable amount of physiologically active alkaloid present, it is often impossible to cause this to separate by crystallization, since the presence of certain uncrystallizable substances often retards or entirely prevents this. Many samples, however, will give a tolerable amount of crystals of nitrate on rubbing with nitric acid. Prof. Wright has consulted Mr. John Williams, of Messrs. Hopkins & Williams, 16 Cross street, Haddon Garden, London, E. C., as to the manufacture of the crystallized alkaloid. This chemist says that he has tried to separate crystals from some batches of crude alkaloid with success, but not from others; and the uncertainty as to the yield is a great bar to the production of the pure crystallized base. Moreover, he says that the crystallized base could only be sold at a much higher price than the present amorphous preparation, and that, in practice, purchasers do not care to give the high price. Regarding the latter remark we wish to say that this may be true, and is probably true, in many localities as well as in many lines of the business. But we venture to assert that those practitioners who prescribe the crystallized aconitine are sufficiently posted and have sufficient discernment to be able to control the quality of the substance supplied to them. In England the "sale of food and drugs" act will probably be a sufficiently ample protection; and in this country the moral tone among the better class of pharmacists will in a great measure supply the want of such an act, for it will not be denied that both the ethics and the knowledge of pharmacists have vastly improved in this country during the past fifteen years.

Prof. Wright, who entertains opinions similar to the above, thinks that the first-named objection—namely the uncertainty as to the yield—could be gotten over by purchasing batches of root only on the basis of a chemical assay, and paying for the batch, not in proportion to the total alkaloid contained, but in proportion to alkaloid which can be obtained in a crystalline state. This would certainly be a solution of the difficulty, but even the process of assay itself may, in the most skilful hands, give results totally at variance with working on the large scale. As long as no method has been discovered to *separate* the amorphous and crystallizable alkaloids in any given batch or product obtained therefrom, at least to such an extent that most, if not all, of the pure alkaloid may crystallize, and as long as the nature of the amorphous substance is not thoroughly understood, a mere process of assay, we fear, would be a failure. But, no matter whether assay precedes the operation or not, we are quite convinced that there would be (comparatively) a very active demand for pure "aconitine," *at any price within reason*, among the medical profession, if it could only be had. During the last year or so, Duquesnel's aconitine was in considerable demand here, but the supply was rapidly exhausted, and none could be obtained for a long time. The ordinary commercial "aconitine," made by Merck and others, is notoriously uncertain, not owing to any wilful neglect of the manufacturer, but to the method used in its manufacture which is based on old processes, recently shown to yield uncertain results. We have no doubt that Mr. Merck will soon introduce the required improvements, and put a purer article on the market, for this house is hardly ever behind, and very fre-

quently ahead of the medical profession in the supply of useful and reliable products.

Inquiries as to the possibilities of making pure "aconitine" in Germany, made for the same purpose, have elicited the following reply from the well-known house of Gehe & Co., Dresden:

". . . We have very carefully considered your communication, and can state for our part, that we have indeed, at various times in the past, undertaken the preparation of aconitine, and that our product has met with approval. But the praise bestowed upon us from one quarter, at the same time conveyed a covered stricture, in so far as the party in question claimed to have found our preparation very much stronger than that of other manufacturers. We have, therefore, given up the manufacture of aconitine, a step to which we were led also by the fact that it was impossible for us to furnish an article which could compete in price with that made by others. Aconitine being very soluble in water, it is evident that the products of different manufacturers may differ from each other in appearance and in effect. Until a method for preparing a definite product has been discovered, it would probably be useless for us to resume the manufacture, especially as the demand for the substance is very small [no doubt; because physicians have lost faith in it.—ED. N. R.]. In place of the uncertain "aconitine," the medical profession here uses considerable quantities of alcoholic extract of aconite, both in pilular consistence and dry, which possess all the properties of the best aconite root, and which have, therefore, found favor everywhere.* We would suggest to you to invite the attention of the medical profession in the United States particularly to these preparations, as they truly represent, in a small bulk, the best aconite root in the market."

Under the present circumstances it may become necessary to refrain from recognizing aconitine officially, and to await further researches and developments, until manufacturers succeed in overcoming the difficulties of the separation of the pure alkaloid.* Meanwhile a good extract of aconite, made from selected roots, of a known and controlled degree of moisture, with uniform menstruum—for the total amount of absolute alcohol in the menstruum, and the total amount of water (that in the menstruum and that in the root) should always be as uniform as possible—such as that recommended by Messrs. Gehe & Co. will probably have to answer the purpose.

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*Samples of these two preparations have been kindly sent by Messrs. Gehe & Co. They appear to have been made with great care and are highly active.

Some months ago, we received information of a fatal case of poisoning caused by the variability of the commercial aconitines. The importance of the case will justify the space we devote to it.

On March 14th, 1880, Dr. Meyer in Winschoten (Netherlands) prescribed for a patient, 61 years of age, who was suffering from chronic nocturnal headache, the following prescription, which he was much in the habit of ordering for similar affections:

℞ Aconitini nitrici....0.200 gm. (= 3.086 grains).
Tinct. chenopodii ambrosioidis.....100.0 gm.
D. S. Every hour 20–40–60 drops.

(According to another statement, the directions were: 20 drops 4 times daily.)

At the same time the patient was instructed to increase the dose each time by 5 drops, until he had taken 4 times 60 drops, provided he could bear so much. The patient did not exactly follow the instructions, but took, on the evening in question, only *five* drops of the solution. He soon felt a burning and constricting sensation from the mouth to the stomach and a feeling of coldness over the whole body, which compelled him to go to bed. Two hours later he took 20 drops more, and shortly afterwards was seized by still more alarming symptoms, among which were prominent an icy sensation all over the body, beginning at the feet, burning in the throat, præcordial angina, cold clammy sweat, dizziness, deafness, and complete prostration, with difficult and stertorous breathing. Next day, having taken 20 drops more, the same symptoms recurred, accompanied by convulsive cramps. Two more doses were taken afterwards, the first of which remained mostly ineffective on account of its being vomited up; but the last dose again caused the previous alarming symptoms.

The wife the patient, alarmed at these occurrences, had gone to the office of the physician on the afternoon of March 16th, and brought the medicine with her, relating all the alarming occurrences after the administration of the doses. Dr. Meyer, convinced in his mind that the quantity taken could not produce these symptoms, measured out 50 (according to the visitor's statement, about 60) drops into a wine-glass, filled the latter up with wine and drank it out. He then drank another glass of wine, probably to take away the disagreeable taste, and, having also eaten a piece of an orange, dismissed the patient's wife, saying that she should keep on giving the medicine. Between 4 and 5.30 P.M., Dr. Meyer does not seem to have felt any discomfort; but about 5.30, while prescribing for another patient, his memory commenced to somewhat fail him, and shortly after he wrote a very rambling, unconnected letter to the apothecary, asking for information in regard to the mixture, as his apprehensions were evidently awakened at that time. Shortly after he was seen by another physician, but in spite of all efforts, the patient succumbed during the third convulsive attack at 8.53 P.M.

There are apparently two possible causes to which this unfortunate death may be ascribed. *One* is a possible mistake on the part of the apothecary in weighing out the prescribed quantity. But this cause is made highly improbable by the fact that a similar poisoning case by aconitine (not followed by fatal consequences, however) occurred a day or two later, and it would hardly be likely that two identical errors would be committed a few days apart. The probable explanation, which is generally believed to be correct, is, that, instead of the comparatively weak of aconitine of the Netherland Pharmacopœia, some of the more powerful English or French aconitines had been substituted. And this is precisely a danger which will be incurred by attempting to administer aconitine internally. For the present, it seems absolutely necessary to exactly specify the kind intended on every prescription.

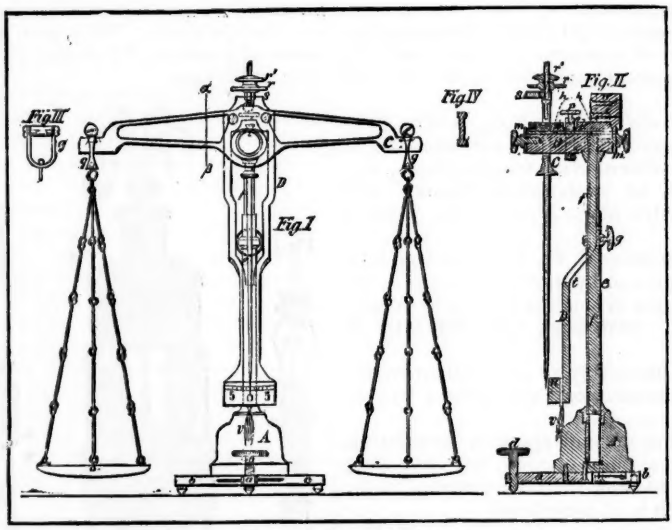
* Might not the process of dialysis assist in separating the amorphous and the crystalline base? Or would it be possible to follow Prof. Ladenburg's plan, in his researches on hyoscyamine—namely to base a method of separation on the peculiar properties of the gold-salt?—ED. N. R.

Westphal's Improved Balance.

THE object which the inventor had in view, in the construction of this new balance, was, to facilitate its being put into correct position on any kind of table, and to insure accuracy and certainty in weighing. It has, therefore, the sensitiveness of an analytical balance, permitting fractions of milligrams to be read off, so far as this can be done in the open air, and may be loaded up to 250 gm. (8 troy $\frac{3}{3}$), indicating differences from 1 to $\frac{1}{10}$ milligrams, according as it is covered by a case, or not. The balance, which consists of the pillar, scale-bearer, beam, scale-pans, and suspending arrangement, is illustrated in the accompanying cut.

The scale-bearer *D* being thus free to turn upon the same level as the beam, it follows that, in a state of perfect equilibrium, the index will point to the exact centre of the scale, even though the balance should not stand upon a perfectly level place. As soon as the different parts have once been put together, and the balance is put upon the place where it is intended to be used, the scale-bearer will vibrate to and fro until it has come to rest, which is hastened by the gentle friction of a camel's hair pencil. The turning of the beam, caused by actual weighing, has no further influence upon the scale-bearer.

A more detailed description may be obtained direct from the manufacturer, George Westphal, in Celle (Hannover), Germ. The price of the balance is 90 marks.



Westphal's Improved Balance.

Fig. I. is a front view; Fig. II. a sectional view through the central axis, as seen from the right side; Fig. III., a lateral view of the suspended scale-pan; Fig. IV. a section of the beam in the direction of the line $\alpha\beta$.

The scale rests upon three arms, one of which carries a set-screw, while the other two may be turned in any direction, and, when it is desired to pack the scale away, may be brought around so as to lie close to the arm *a*.

The hollow pillar *e* is firmly screwed into the socket *A*, and within it is placed a rod *f*, carrying the beam, etc., which may be raised or lowered as may be required, and may be held in any position by a screw (*g*, Fig. II.). The rod *f* carries at its upper end the cylindrical piece *B*, upon which is fastened the hard plate *h*. Upon this latter rest, and may freely turn, both the beam itself, by its knife-edge *i*, and the scale-bearer *D*, by its knife-edge *h*. The guard-plates *m m* and *n o*, prevent a displacement of the knife-edges forward or backwards.

Homatropine, a new Rival of Atropine.

PROF. A. LADENBURG, of Kiel, has published further important discoveries on derivatives from solanaceous alkaloids. As has been stated in a previous article, the author applies the name "tropeïne" to those new bases which are produced by warming tropine (itself a derivative of atropine, etc.*) and organic acids with diluted hydrochloric acid. He now describes some of these tropeïnes lately obtained by him, in conjunction with G. Meyer, and one of them will be found of particular interest, as it promises to partially displace atropine from ophthalmic practice.

1. *Oxybenzoyl-tropeïne*, $C_{15}H_{19}NO_3$, is prepared from equal parts of hydrochlorate of tropine and oxybenzoic acid by evaporation with not

* NEW REM., 1876, 276. 1879, 231 (see particularly here). 1880, 138, and oftener since.

too dilute hydrochloric acid. The product consists of fine scales, which are very difficultly soluble in water, also somewhat difficultly in alcohol and ether, but easily in acids and alkalies. The hydrochlorate and sulphate were obtained crystalline.

The solutions of this base have a feeble mydriatic effect.

2. *Paraoxybenzoyl-tropeïne*, $C_{15}H_{19}NO_3$, is prepared like the former, except that paraoxybenzoic acid is used. It forms colorless rhombic scales, which are easily soluble in alcohol, but difficultly in water. It is soluble in acids and soda solution, but insoluble in ammonia.

3. *Orthooxybenzoyl-tropeïne*, or *Salicyl-tropeïne*, $C_{15}H_{19}NO_3$. The chlorhydrate of this base is not very soluble in water.

4. *Benzoyl-tropeïne*, $C_{15}H_{19}NO_2$, is prepared like the former, only that benzoic acid is added from time to time, in small quantities, to the reacting substances.

5. *Phthalyl-tropeïne*, $C_{24}H_{23}N_2O_4$, is very difficult to prepare and the yield is very minute.

6. *Atrobyl-tropeïne* or *Anhydro-Atropine*, $C_{17}H_{21}NO_2$, prepared by evaporating tropine with atropic and hydrochloric acids. The yield is small.

7. *Cinnamyl-tropeïne*, $C_{17}H_{21}NO_2$, prepared from tropine, cinnamic and hydrochloric acids, as before. Crystallizes in small scales, easily soluble in alcohol and chloroform, very difficultly in water.

This base is but feebly, or not at all mydriatic, but is *highly poisonous:* 0.03 gm. killed a frog in three minutes.

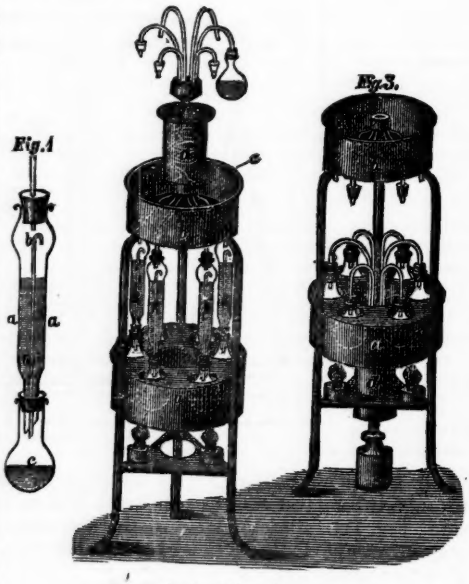
The preceding are not specially interesting, in a therapeutical point of view, but have been briefly quoted, to show their relationship to the following, which is of importance:

8. *Oxytoluyl-tropeïne*, or *Homatropine*, $C_{16}H_{21}NO_3$, is prepared from tropine, amygdalic (phenylglycolic, or benzo-glycolic) and dilute hydrochloric acids. The free base has not yet been obtained by Ladenburg in a solid state, but its salts crystallize readily. One of the most advantageous is the *bromhydrate of homatropine*, $C_{16}H_{21}NO_3.HBr$, which is easily obtained in moderately large crystals. The hydrochlorate and sulphate may likewise be prepared.

The mydriatic effects of *homatropine* have been carefully tested in the clinic of Prof. Völkers,* of Kiel. The base is distinguished by the peculiarity, that its effects—which are about of the same energy as those of atropine—disappear in a much shorter period: in about 12 to 24 hours; while the effects of atropine sometimes last up to 8 days. For this reason, the new base is much preferable to atropine for ophthalmic examinations of the eye, and has already for some time been used for this purpose. Prof. Quincke has found that it is much less poisonous than atropine, which is another advantage.*

[Contrary to the statement of Ladenburg, homatropine is declared by Merck to crystallize in transparent, colorless regular crystals, the form of which is not yet determined. The *hydrobromate* is manufactured and sold by Merck. It is soluble in 10 parts of water, and the solution keeps well. The salt is not hygroscopic.]

In a subsequent note published by Prof. Ladenburg, he says that Mr. E. Merck in Damstadt, who has undertaken the manufacture of homatropine on the large scale, has succeeded in obtaining it in crystals, by recrystallizing it from absolute ether. They form transparent colorless prisms, which, though not easily soluble in water, are nevertheless hygroscopic and very deliquescent. Their melting point is between 95.5 and 98.5° C.—*Ber. d. Deutsch. Chem. Ges.*, 1880, 1340.



New Extraction Apparatus.

DR. F. GANTTER describes an improved form of extraction apparatus which is particularly applicable for the exhaustion of small quantities of substances by volatile liquids. Fig. 1 represents the extraction vessel itself, which is composed of an exterior tube *a*, and an interior small curved tube *b* provided with two knobs of glass on the outside. When the vessel is charged, the appropriate filtering material, purified tow or cotton, is wrapped around *b* between the knobs, and the whole is covered with filtering paper,

* Compare *The Lancet*, 1880, No. 30.

* 0.05 gm. of the hydrochlorate, given to a dog, dilated the pupils, accelerated the pulse, and produced dryness of the mouth and fauces, while the animal remained otherwise well.

after which the tube is pushed down into the neck of *a* to make a tight filtering-joint. The substance to be exhausted is now poured on the filtering medium—the tube *b* being kept exactly in the centre—and the surface levelled off. Finally after the vessel *a* has been connected with the flask, the volatile menstruum is poured on top, and, if it percolates clear, the whole is placed into the water-bath. The volatile vapors ascending from *c* through *b* are partially condensed in the upper part of the extraction-vessels *a*, and partly in the condenser *d*, which is a permanent arrangement, whence they are returned in a liquid condition upon the substance. The form of apparatus shown in Figs. 2–3 is intended for the purpose of conducting a number of extractions at the same time. A water-bath *a* is so constructed as to heat six flasks at the same time; above, each extraction vessel is joined, by means of a cork, to a tin tube, which passes first through a cooling vessel *b*, and afterwards to a condenser *d* which is fastened into its socket, so that both the cooling vessel *b* and the condenser *d* may be lifted off at one and the same time. The bottom of the socket *c* is so arranged that all the condensed ether is equally distributed over the six extractors. In the upper part of the condenser is fastened an expanded head, bearing six curved tin tubes to which flasks may be attached. When the extraction is completed, the flasks are removed from the water-bath, fastened to the just mentioned corks, and after the condenser *d* has been unscrewed, the latter is lowered through the central opening in the water-bath (see Fig. 3) until the flasks occupy their old place in the latter. Heating now the water surrounding the flasks the liquid distils over and is caught in the receiver on the bottom. This apparatus is made and sold by G. Lufft (Firm: S. F. Trostel, Stuttgart) for 125 marks.

On the Preparation of Liquids of a Fixed Specific Gravity.

As an addition to the article by E. MYLIUS on this subject, which we published in our July number, page 203, the following remarks of a correspondent of the *Pharmaceutische Zeitung* (No. 57) will be found of interest:

"The paper of Mylius, while it is free from errors, still fails to fulfil its aim, viz., to explain the *modus operandi* satisfactorily to beginners, because it does not develop the fundamental equation on which it is based. My own method of solving the problem is the following:*

Supposing we have two liquids, *A* and *B*, which are to be mixed with each other.

Then let

W	denote the	absolute weight in grams of	A.
S	" "	specific gravity	" "
V	" "	volume in cc.	" "
w	" "	absolute weight in grams of	B.
s	" "	specific gravity	" "
v	" "	volume in cc.	" "

and w^m, s^m, v^m respectively the weight, specific gravity, and volume of the *mixture*.

Now, under all circumstances, the weight of *A* added to the weight of *B* will represent the weight of the mixture, which we may write thus:

$$W+w=w^m;$$

and, if no alteration of volume takes place, the same holds good when mixing liquids by volume:

$$V+v=v^m.$$

According as we now wish to *measure* or to *weigh* liquids, we introduce the well-known relation between volume (V), weight (W), and specific gravity (G):

$$W=V\times S, \text{ etc.,}$$

into the first or second of the above equations. In the first place we have, because $W=V\times S$, $w=v\times s$:

$$(1)\quad (V\times S)+(v\times s)=(V+v)\,S^m.$$

Hence we have, if S^m, or the specific gravity of the mixture is required,

$$(2)\quad S^m=\frac{(V\times S)+(v\times s)}{V+v}$$

or, if the desired specific gravity of the mixture is given, and the volume (v) of the liquid *B* is required:

$$(3)\quad v=\frac{V(S-s^m)}{s^m-s}$$

If the liquid *B*, as is usually the case, is water, then s becomes $=1$, hence the preceding equation becomes:

$$v=\frac{V(S-s^m)}{s^m-1}$$

or in words: To find the quantity of water required to reduce another liquid to a desired specific gravity, deduct the desired specific gravity from the specific gravity of the undiluted liquid, divide the remainder by the desired specific gravity less 1, and multiply the quotient with the volume of the undiluted liquid.

If the liquids are to be weighed instead of measured, the volume may be easily deduced from the weight, or the following equation will furnish formulas for the desired value:

$$(4)\quad \frac{W}{S}+\frac{w}{s}=\frac{W+w}{s^m}$$

As an example, let us take that given by Mylius (see above, page 203, last line): 1,000 gm. of a solution of subacetate of lead are to be reduced by water, from a spec. grav. of 1,240 to 1,235.

Since 1,000 gm. of this liquid occupy a space

* In Mylius' paper (see above, page 204), we have used the following signs:

W = weight of diluted liquid.
w = " " undiluted liquid.
Sp = spec. grav. of diluted liquid.
sp = " " " undiluted liquid.
$\delta\pi$ = " " " diluting liquid.
V = volume of diluted liquid.
v = " " undiluted liquid.

of $\frac{1,000}{1,240}$ = 806.4 cc., we obtain, through equation (3):

$$v = \frac{806.4 \times (1,240 - 1,235)}{1,235 - 1} = 806.4 \frac{0.005}{0.235} = 17.1 \text{ cc.}$$

DR. G. DAHM, of Bonn, likewise referring to the paper of Mylius, and also to another paper by Paehler (1875), remarks, in the next following number (58) of the same journal, that the rules of these authors, while correct, are too detailed. The whole calculation is based on the following principles.

1. Required to find the weight, to which a heavier liquid—that is a liquid containing some substance in solution—is to be diluted with its menstruum, or, to which a lighter liquid is to be evaporated until it has a given percentage:

   Multiply the given weight of the liquid with its percentage contents and divide the product by the required percentage.

2. Required the weight of each of two liquids of different percentage, which are to be mixed to produce a liquid of a given percentage:

   Then the weights of each of the liquids to be mixed are inversely as the differences between the percentage of each and the required percentage of the mixed liquid. [Or, in other words: Multiply the weight of the heavier liquid with the difference between its own and the required spec. grav., and divide the product by the product obtained in the same manner with the lighter liquid.]

Both of these rules apply, provided the percentages refer to *weight*. If percentage by *volume* is meant, the following rule applies:

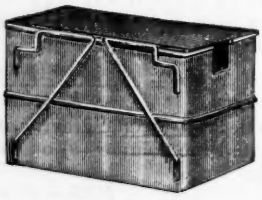
3. Required the volumes of each of two liquids of different spec. grav. (or percentage), which are to be mixed to produce a liquid of a given spec. grav. (or percent.).

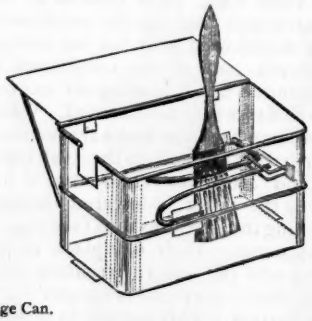
   Then the volumes of each of the liquids to be mixed are inversely as the differences between the spec. grav. (or percent.) of each and the required spec. grav. (or percent.) of the mixed liquid.

The author of this paper gives the good advice to calculate all such examples, if at all possible, by *weight*. In the case of the most important liquids and acids, accurately calculated percentage-tables, both by weight and by volume, are published. Since the mixture of weaker or stronger liquids very often produces an anomalous alteration of volume, it is always safest to base the calculation upon terms expressing weight.

Mucilage Cup.

THE adjoining figures illustrate a very ingenious mucilage-can invented by Mr. Chas. Sabin, a druggist of Rockford, Ill. The can is nicely made of heavy tin-plate, and is provided with a hinged cover and with ledges at the ends which slip under clamps screwed to the table or counter, thus holding the box or can in place during its use, and permitting its instant detachment by sliding it forward or backward. Wire brackets are hinged to the cup to serve for supports to the cover, so that the inner surface of the latter may be used as a rest for the label while paste is being applied to it. Within the cup is an arrangement of wires designed to remove from the brush any excess of paste or mucilage, and so avoid smearing the sides of the box. In one end of the box is a notch to receive the handle of the brush when the box is closed.





Sabin's Mucilage Can.

A New Form of Instrument for the Determination of Specific Gravity.

F. P. DUNNINGTON describes as follows, in the *Chemical News*, a new form of specific gravity measurer. It consists of a hydrometer-shaped float A, with the lower portion of the stem B graduated to tenths of cubic centimetres, or equal subdivisions of *volume*, and the upper portion, C, separated from it by a water-tight partition, the tube being left open above, and also marked so that each subdivision shall mark off a volume contained in this tube (C) equal to the volume of the lower portion of the stem marked off by each of its subdivisions. Or by

attaching the tube C to B, having the inner diameter of C equal to the outer diameter of B, portions of the same paper scale may be attached to the inside of B, and outside of C, and the latter then covered with varnish.

It is to be used as follows: Partly fill the jar D with water at the temperature of the surrounding air; put a little water into C (enough to cover the substance of which the sp. gr. is to be taken), and read off its level; then float the instrument, and press it down, say five divisions—below the level at which it will rest. Allow it to come to rest, and then note the depth at which it floats. Having broken from the substance, of which the sp. gr. is to be taken, a single lump which will nearly fill the upper tube, breathe on the piece and with forceps carefully let it fall into the water contained in C (if a number of fragments are employed, they should be stirred with a needle after immersion to rid them of air-bubbles); then, as before, press down the stem B, the additional five divisions, allow it to come to rest and again read off the depth at which it floats, and the level of the water in C. The difference between the readings on B gives the volume of water equal to the weight of the substance added, and the difference between the readings on C gives the volume of the substance; then, dividing the former by the latter, we obtain the specific gravity.

The additional pressing down of the stem seems necessary to give uniformity to the meniscus formed on B. I find a little glycerin added to the water used in C serves well to perfect this meniscus: in making a reading of the level of the latter, special care must be taken, since the appearance of the curves is altered when the substance comes near the surface of the liquid.

By using any liquid in the tube C, its sp. gr. may be determined with but 3 or 4 cc., if it be not too volatile; and also the sp. gr. of solids soluble in water, but insoluble in some other liquid.

The instrument has the following dimensions:—Cylinder (A), 50 mm. long, 30 mm. diam.; stem, 100 mm. total length, 12 mm. diam. The attached scale is of paper 60 divisions to the inch, the short tube C being attached by cement.

It would be preferable to have the tubes B and C united by fusion, and the scales etched upon the glass.

Uniform pieces of calcite, marble, and wolfram were selected, and the sp. gr. of each, for the temperature of the laboratory, carefully taken, giving for these respectively

2.716	2.719	6.844

Of single pieces of each of these, weighing from 2 to 3 grms, the sp. gr. was thrice determined, giving

(1)	2.72	2.77	6.58
(2)	2.77	2.83	6.85
(3)	2.72	2.78	6.95

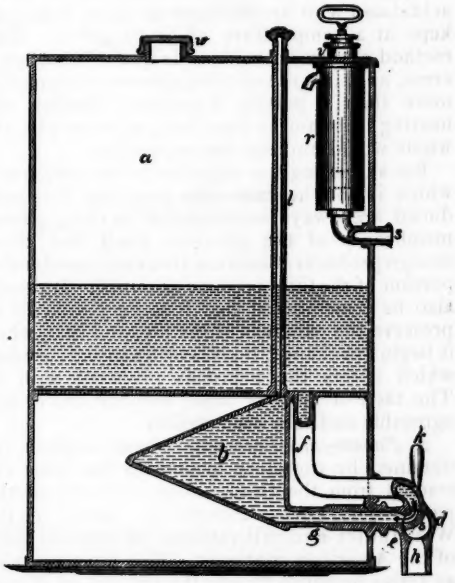
Of single pieces weighing less than 1 grm. the sp. gr. was thrice determined, giving

(1)	2.73	2.87	7.20
(2)	2.66	2.75	6.67
(3)	2.70	2.66	6.5

These eighteen determinations and their calculations required seventy-six minutes, and the longest time required for any one was five minutes.

Liquid-Measuring Tank and Cock.

Some time since (New Rem., March, 1879, p. 89), we described a measuring tank made by the Colman Tank Co., of this city. A similar tank, having certain improvements in the arrangement of its parts, is shown in the adjoining figure of



a tank patented on June 15th by G. W. Aldrich, of Brooklyn, N. Y. (Pat. No. 228,799). The tank *a* rests upon a base which holds the measuring chambers, one of which is shown at *b*. At *l* is an air-vent. When the three-way cock *d* is in the position shown in the figure, the oil or other liquid in the tank can flow into the measuring vessel through tubes *f* and *g*. When the handle *k* is reversed, the fluid in *b* is allowed to escape through the orifice *h*. The cap *w* can be removed for the purpose of cleaning the tank, and a pump *r* is inclosed in the tank and permanently fixed, with a pipe *s*, to which a rubber suction-tube can be attached for the purpose of filling the tank from a barrel or other source of supply.

On Meat-Peptones of different Origin.

For several years past, the medical journals have frequently discussed the question of the meat-peptones, and at present they are well known everywhere. But before they can definitively take a place in therapeutics, it will be useful to examine the value of the processes by which they are obtained.

Up to the present time, three different substances have been employed for digesting meat and converting it into peptone, namely: pancreatin (or rather the pancreas itself), the juice of *Carica Papaya* L., and pepsin. Consequently the products prepared with them must differ. Peptones prepared with the aid of the two first-mentioned substances may be had in commerce, but pepsic peptones have so far not been studied scientifically.

1. *Pancreatic Peptones.* These are made, not with pancreatin, but by causing the pancreas of the pig to act upon meat contained in water acidulated with hydrochloric or lactic acid, and kept at a temperature of 30 to 40° C. This method requires considerable quantities of pancreas, and, in spite of this, does not accomplish more than a partial digestion. Besides, the heating must not be kept long, as otherwise the whole would undergo decomposition.

But supposing the digestion to be complete—which is not the case—the peptones thus produced are always accompanied by the digested membranes of the pancreas itself, and these foreign products constitute always a considerable portion of the total peptone obtained. It should also be remembered that it is very difficult to preserve the pancreas of the pig, and that, when it begins to change, it gives off a nauseating odor, which enters the peptones prepared with it. The taste of most of these preparations is disagreeable and they alter rapidly. . . .

2. *Papaw-juice Peptones.* These products are obtained by digesting meat with the juice extracted from the trunk, leaves, or fruits of the papaw-tree, *Carica Papaya* L., native of the West Indies and cultivated in the tropical parts of the American continent. This juice contains as active principle chiefly the papaïne of Wurtz, the properties of which approach very closely to those of animal pancreatin. It also contains an oily substance, of disagreeable odor and taste, very sticky, which is an excellent vermifuge in doses of 2 to 4 centigrams ($\frac{1}{3}$ to $\frac{2}{3}$ grain). This liquid has a very irritant action, and may have serious effects upon the mucous membrane of the stomach. The solvent power of papaw-juice is very feeble: 10 centigrams (1.5 grains) of meat require 0.25 to 1.00 gram (4 to 15½ grains) of the juice for digestion.

These peptones appear, therefore, to offer no special practical interest. Experiments made with the peptones produced by this method have shown that they are precipitated by nitric acid, which shows that the meat is more or less altered, but not completely digested.

3. *Pepsic Peptones* are not yet to be found in the market. The causes are: first, the high price of the pepsin, and second, its feeble digestive power.*

If it is established that 1 gram of commercial pepsin digests 50 grams of fibrin dried on paper or on linen, it does not follow that it can digest the same amount of meat: indeed, 1 part of this same pepsin transforms into peptone not more than 3 parts. Yet these pepsic peptones keep well, and have an aromatic odor and an agreeable taste. On comparing them, in this direction, with the pancreatic peptones, there can be no doubt but that they will be preferred to the latter. To prepare them commercially, the following problem is to be solved: To prepare, at a low price, a pure pepsin having an enormous digestive power, capable of dissolving 700 to 800 times its weight of meat, and introducing into the peptones only a trifling amount of foreign matters. When this is accomplished, another step may be taken, namely to eliminate, as has been shown by Dr. Henniger, the acid, which serves to facilitate digestion; and then it will be possible to obtain products almost entirely pure. The author of this paper has manufactured, in the laboratories of Rigaut and Dusart, exceptionally powerful pepsin (dissolving from 15 to 1800 times its weight of fibrin), hence the above problem became comparatively easy to solve.—Portion of a paper by P. Chapoteaut in *Journal de la Soc. de Méd. et Pharm. de la Haute-Vienne*, 1880, 108.

On the Antiseptic Property of the Salts of Brucine and Strychnine.

Professor Carlo Pavesi has observed that solutions of the salts of brucine and strychnine possess, in an eminent degree, an antiseptic and antifermentative power. Meat of any source immersed in a solution of sulphate of strychnine or brucine and left there for months, at a temperature at 16° to 18° C, remains fresh and inodorous. Removed from the solution and dried, it becomes very hard and bitter, because the molecules of the alkaloid have penetrated every part of the tissue. A solution of the alkaloids added to milk, though the latter separates into its liquid and solid constituents, prevents it from further decomposition. Its action upon urine is quite prompt, producing, after a few hours, at a temperature of 15° to 16° F. a mucous saline deposit floating about in a straw-yellow liquid, without any trace of decomposition or development of ammonia. The same effects were obtained when experiment-

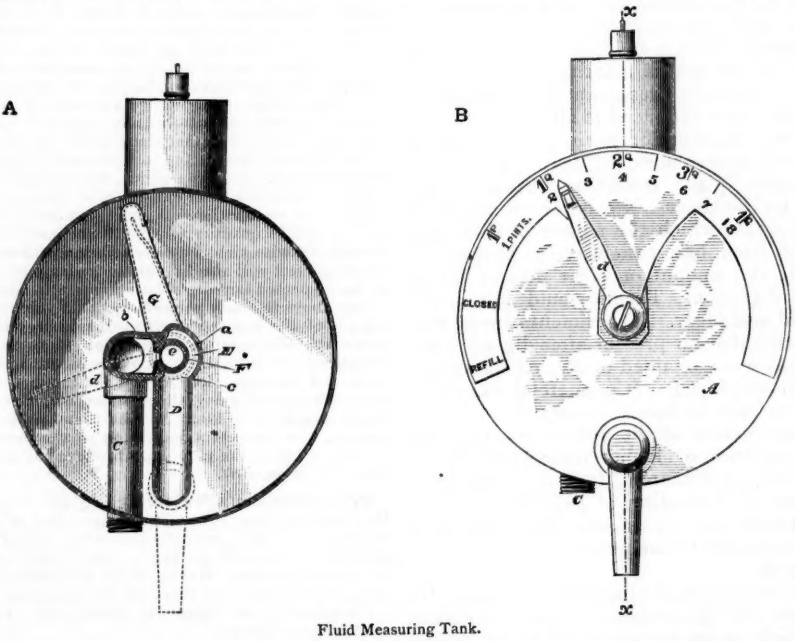
* These remarks do not fully apply to this country, but may probably be true so far as regards the home of the author, Departement de la Haute-Vienne, and other parts of France. Scheffer's pure pepsin will doubtless bear comparison with the "powerful" article mentioned at the close of the above paper.

ing upon blood, albumin, gelatin, honey, sugar, grain, leguminous seeds—which latter are prevented from germinating—and bitter almonds and mustard—which, if first deprived of fixed oil, are deprived of the power of developing essential oil.

All members of the Strychnos family, particularly the St. Ignatius' Bean and Nux Vomica, are used in tropical countries as remedies, but, singularly enough, only against fevers and poisonous bites. The effectiveness of the remedy in these diseases may possibly be owing to the antiseptic and antifermentative power of the alkaloids. The seed of the species *Strychnos Potatorum* L., which is common in India, and is known as "clearing nut," is used for clarifying impure or muddy water, by rubbing with it the interior of unglazed drinking vessels. Prof. Pavesi thinks it possible that the antiseptic effects of these seeds are likewise due to the presence of strychnine.*—*Bolletino Farmaceutico* (Milano), 1880, 234.

Fluid Measuring Tank.

SAMUEL M. CAUKER, of Denver, Col., is the inventor of a tank-measure for fluids, which is peculiar in construction. It consists of a chamber into which the fluid is admitted until it is full. The contents are then drawn out by a siphon tube, the amount removed depending upon the position of the short arm of the siphon. Fig. A is a cross section of the tank, showing the peculiar arrangement of stop-cock which admits of fluid entering by the supply-tube *C* when the handle (*d* in Fig. *B*). is turned to the proper point, or when turned to another position, either closes the stop-cock entirely or opens the communication with the discharge-pipe. The amount of fluid withdrawn is regulated by the immersion of the end of the siphon *G*, and a tell-tale float upon the top of the tank indicates when the chamber is full. For more complete details address the Chief Clerk of the Patent Office, referring to Pat. No. 228,866 of June 15th, 1880, and inclose 25 cents.



Fluid Measuring Tank.

Behavior of Tannin towards Pepsin, Albumin and Albuminoids.*

THE well-known property of the tannin of nutgalls to precipitate dissolved albumin, albuminoids, gelatin, etc., is of particular interest pharmocologically. These precipitates are insoluble in water, but soluble in moderately concentrated acetic acid, also in an excess of solution of albumin or gelatin (the resulting solution has a faintly acid reaction), in dilute lactic acid, and finally in carbonated and caustic alkalies.

* It is rather doubtful whether this is the true cause of their effect; indeed, the presence of a poisonous alkaloid in these seeds is by no means proven, and the fact that the water does not become in the least bitter would seem to be an additional proof for the absence of a poisonous bitter alkaloid.—ED. N. R.

* Extract from a paper by *Dr. L. Lewin*, Assistant at the Pharmacological Institute of the University of Berlin, entitled "Untersuchungen über Wirkung und Verhalten des Tannins im Thierkörper," in *Virchow's Archiv*, LXXXI., 78.

Tannin loses its property of coagulating gelatin and albumin after it has been mixed with an alkali to faint alkaline reaction. Such an alkaline tannate ceases to act, perceptibly, upon albumin, but still possesses the peculiar astringent taste characteristic of tannin, when put on the tongue.

Pepsin as well as peptone, in solution in water, behave exactly like albumin. Previous observers have partly misinterpreted the action of tannin in the stomach, in presence of those bodies, because they failed to take account of the simultaneous presence of hydrochloric acid. For, if tannin is added to a solution of pepsin, a precipitate is formed which only requires a little, say 0.1%, hydrochloric acid to disolve it. The same is the case with peptone. And, if the solution of these bodies has been previously made acid, even by so small a quantity of hydrochloric acid as is normally present in the stomach, a precipitate is not produced at all.

Artificial digestion of fibrin or albumin by pepsin and hydrochloric acid, in presence of tannin, takes place normally, entirely uninfluenced by the latter. Nor is the tannin at all changed, a fact which the author of the paper we quote from has conclusively proven, by estimating the amount of sugar present before and after digestion. Tannin would split up into gallic acid and sugar. Experiment proved that the quantity of sugar present after digestion was the same as was contained in the original sample of tannin employed. (Commercial tannin is hardly ever entirely free from sugar.)

The conclusions of the author are, that the artificial digestion of albumin remains unaffected by the presence of tannin; that the latter does not prevent the formation of peptone, and does not precipitate the pepsin, and that these facts are to be ascribed to the presence of free hydrochloric acid.

[These results are of considerable interest for prescribers and dispensers, as the conditions under which tannin was supposed to be incompatible with pepsin have heretofore not been clearly understood.]

Picrotoxin.—(L. BARTH and M. KRETSCHY.) The authors have ascertained that the substance extracted in the usual manner from Cocculus Indicus, and commonly known as *picrotoxin*, is a mixture of three different compounds, one of which they designate as *true picrotoxin*, $C_{15}H_{16}O_6$, being very bitter and highly poisonous. The other two substances they call *picrotin*: $C_{30}H_{30}O_{12}$, also bitter, but not poisonous; and *anamirtin*, present only in small proportion, and neither bitter nor poisonous.—*Chem. News*, May 14th.

Manufacture of Vanadium Preparations.—A company has been organized in Stockholm, Sweden, under the title: Aktie-Bolaget Urda (Stock-Company Urda), for the purpose of working the Swedish ores containing *vanadium*. The company manufactures a number of salts, at a comparatively moderate price. The kilogram of ammonium vanadate is quoted at 400 marks (=$95.20). As the vanadium salts are being largely used in dyeing, their price is likely to become lower in the course of time.

RECENT PAPERS.

Test and Assay of Essential Oil of Bitter Almonds Suspected to Contain Nitrobenzole.—(DR. HERM. HAGER.) The author has devised a new, simple process for discovering the presence and estimating the quantity of nitrobenzole present as an adulteration in any sample of essential oil of bitter almond.

On adding 10 drops of the *pure* oil to 10 cc. of 45% alcohol, or to a mixture of 5 cc. of 90% alcohol and 5 cc. of water, and, after closing the test-tube with the finger, turning it twice upside down, the oil dissolves to a clear solution. If nitrobenzole, even as little as 1% is present, the oil of bitter almonds dissolves at once, but the nitrobenzole is separated, clouding the liquid at first, but soon collecting to very minute but easily recognizable droplets which float about in the liquid. After standing for a while, these droplets unite to larger drops, when they become still more evident to the eye. The temperature of the 45% alcohol must not exceed 16° C.: it is best to keep it between 10 and 15° C. Any sample of oil of bitter almonds, which dissolves on very gentle agitation at once to a clear liquid, in 20 times its volume of 45% alcohol, does not contain any nitrobenzole, since only traces of the latter are dissolved by that menstruum. Small quantities of nitrobenzole present (up to 3 per cent) disappear after the mixture stands for some time, but they are always the cause of the milkiness or cloudiness of the solution at the moment of preparation. A short cloudiness even occurs with as small a quantity as ½%. Since most other essential oils likewise yield a cloudy solution with 45% alcohol, the above test will also be able to indicate the presence, in the suspected sample, of foreign essential oils.

The above test may be used quantitatively for the estimation of the amount of nitrobenzole present. Oil of bitter almonds requires for solution 16 to 17 times its volume of 45% alcohol. 2 cc. of the oil are agitated with 34 cc. of the 45% alcohol, and the mixture set aside. After the lapse of a day, the nitrobenzole, all but a trace which remains in solution, will be found collected at the bottom. An important indication of the presence of a sophistication is the cloudiness produced at the first moment.—*Pharm. Zeit.*

Wickersheimer's Preserving Liquid.—(Compare our May number, page 157.) The composition of the original fluid has been gradually somewhat altered, so as to facilitate its manufacture and to make it better applicable for various purposes. Messrs. Poetz and Flohr, of Berlin, prepare two kinds, one intended for injections, the other for macerating and immersing bodies, etc. Their composition is as follows:

	FOR INJECTING.	FOR IMMERSING.
Arsenious acid.....	16 grams.	12 grams.
Sodium chloride.....	80 "	60 "
Potassium sulphate..	200 "	150 "
" nitrate....	25 "	18 "
" carbonate.	20 "	15 "
Water.....	10 litres.	10 litres.
Glycerin.....	4 "	4 "
Wood-naphtha.....	¾ "	¾ "

—*Arch. d. Pharm.*

Nitrate of Aluminium in Pruritus Vulvæ.—(DR. HERM. HAGER.) Nitrate of aluminium dissolved in 5 to 10 parts of water has been used with success as a wash in pruritus. As this salt crystallizes with difficulty and is very deliquescent, it is best prepared *ex tempore* in form of a 50% solution. 10.5 parts of dry aluminium hydrate are dissolved by digestion with 65 parts of pure nitric acid, spec. gr. 1180, the solution diluted with water to 110 parts, and filtered. The solution must be kept in glass-stoppered vials; its spec. gr. is 1170–1172. For each part of the crystallized salt, two parts of this solution are to be taken.—*Pharm. Zeit.*

SOCIETY REPORTS.

THE AMERICAN PHARMACEUTICAL ASSOCIATION.

TWENTY-EIGHTH ANNUAL MEETING.

HELD IN SARATOGA, N. Y., SEPT. 14TH, 15TH, 16TH, AND 17TH, 1880.

TUESDAY, SEPT. 14TH.—*First Session.*

THE Association met in the concert room of Congress Hall, and was called to order at 4 P.M. by the President, GEORGE W. SLOAN, of Indianapolis, Ind.

CHAS. F. FISH, of Saratoga Springs, Local Secretary and Chairman of the Local Committee, was then introduced. He delivered the address of welcome, in which he gave a brief historic sketch of Saratoga and its surroundings, of the position which it now holds as a resort for politicians, socialists, and invalids, and directed special attention to the fact that it was Dr. Stearns, of this county, who in 1809 first brought to the notice of the medical profession the therapeutical use of *ergot*.

President Sloan, in behalf of the Association, returned to Mr. Fish sincere thanks for the cordial welcome.

COMMITTEE ON CREDENTIALS.

The President then appointed the following as Committee on Credentials: F. T. Whiting, of Great Barrington, Mass.; E. B. Gordon, of Cincinnati, O.; and G. J. Luhn, of Charleston, S. C.

THE PRESIDENT'S ANNUAL ADDRESS.

The President then delivered the annual address, in which he expressed his pleasure at again meeting his fellow-members; referred to important changes in the rules of the Association; mentioned the fact that since the last meeting pharmaceutical associations have been organized in Missouri, Iowa, Kansas, Wisconsin, and North Carolina; alluded to the compilement of an index of the Proceedings for the last decade; recommended a vote of thanks to the Committee on the Revision of the National Pharmacopœia; solicited contributions to the centennial fund; proposed a change in the time of meeting from September to June; advised that the Committee on Legislation be instructed to co-operate with the "Western Wholesale Druggists' Association," in urging the repeal of the stamp tax on medicines and perfumery, and then discussed at some length the topic suggested by a paper read by James G. Steele, on "the medicinal plants of California," read at the last meeting of the Association. He considered the effect produced on native medicinal plants by the destruction of our forests, and asked: Can they be successfully and profitably cultivated, and will the cultivated possess the therapeutic virtues of the natural plants? At present these questions cannot be satisfactorily answered, but they are of sufficient importance to demand the earnest attention of pharmacists.

On motion by H. J. Menninger, of Brooklyn, N. Y., Chairman of the Business Committee, the President appointed a Committee to whom were referred the recommendations in his address: E. Scheffer, of Louisville, Ky.; John Ingalls, of Macon, Ga.; and A. Robbins, of Philadelphia, Pa.

On motion by the Chairman of the Business Committee, the members of the medical and the pharmaceutical professions residents of Saratoga, were invited to the privileges of the floor.

On motion, the same courtesy was also extended to the Committee of Revision and Publication of the U. S. Pharmacopœia, then in session in Saratoga.

The Executive Committee then read the names of 141 applicants for membership in the Association.

The Secretary then called the roll of members, when eighty-six were found to be present.

The Committee on Credentials then presented their report through F. T. Whiting, Chairman, which was accepted and the delegates admitted.

The Secretary announced that the following Committee Reports had been received: Report of the Executive Committee and of the Permanent Secretary; Report of the Committee on Legislation; Report of the Committee on By-Laws; Report of the Committee on Membership.

The following gentlemen were then selected as members of the

COMMITTEE ON NOMINATIONS,

one representative being named by each delegation:

New York Coll. of Pharm., H. J. Menninger; National Coll. of Pharm., Chas. Becker; Chicago Coll. of Pharm., Thomas Whitfield; Mass. Coll. of Pharm., B. F. Stacy; St. Louis Coll. of Pharm., O. A. Wall; Cincinnati Coll. of Pharm., W. J. M. Gordon; Philadelphia Coll. of Pharm., A. Robbins; Pittsburgh Coll. of Pharm., F. W. Walker; Montreal Coll. of Pharm., H. S. Evans; Ontario Coll. of Pharm., W. Saunders; Louisville Coll. of Pharm., E. Scheffer; Maryland Coll. of Pharm., J. Roberts; Alumni Assoc. of Mass. Coll. of Pharm., Wm. W. Bartlett; Alumni Assoc. of New York Coll. of Pharm., S. H. Ambler; Alumni Assoc. of St. Louis Coll. of Pharm., O. A. Wall; Alumni Assoc. of Louisville Coll. of Pharm., O. Beckman; Alumni Assoc. of Philadelphia Coll. of Pharm., E. M. Hatton; Alumni Assoc. of Cincinnati Coll. of Pharm., H. Serodine; Wisconsin Pharm. Assoc., J. A. Dadd; New Hampshire Pharm. Assoc., C. A. Tufts; North Carolina Pharm. Assoc., W. Simpson; Connecticut Pharm. Assoc., A. F. Wood; Kings County Pharm. Assoc., W. P. De Forest; South Carolina Pharm. Assoc., G. J. Luhn; Vermont Pharm. Assoc., A. W. Higgins; Iowa State Pharm. Assoc., Geo. H. Schaefer; New Jersey Pharm. Assoc., G. H. White; Newark Pharm. Assoc., Chas. Holzhauer; Pennsylvania Pharm. Assoc., J. H. Stein; New York Phar. Assoc., L. E. Nicot; Kansas Pharm. Assoc., G. H. Ferdinand; Ohio Pharm. Assoc., T. J. Casper; Georgia Pharm. Assoc., John Ingalls; Kentucky Pharm. Assoc., J. F. McKenney; Pharm. Assoc. of the Province of Quebec, R. McLeod; Literary and Scientific Society of the German Apothecaries of the City of New York, P. F. Lehlbach.

The President appointed from the Association at large, in addition to the above, J. G. Thibodeaux, of La.; W. B. Blanding, R. I.; Wm. J. Morley, Texas; E. Martin, Ind., E. Bocking, W. Va.

The President also announced the following as the Committee on Exhibitions: C. H. Dalrymple, N. J.; C. Huston, O.; Wm. Blaikie, N. Y.; P. C. Candidus, Ala.; and G. H. Schaefer, Iowa.

The Business Committee then called up the report of the Committee on By-Laws (relating to Business Council), and it was read by J. P. Remington, of Philadelphia.

On motion, the report was made the special order for Wednesday morning, immediately after the completion of the regular order of business.

The Association then adjourned to meet on Wednesday at 9 A.M.

WEDNESDAY, SEPT. 15TH.—*Second Day.—Second Session.*

The Association was called to order at 9.45 A.M., by the President.

The minutes of the previous session were read by the Permanent Secretary, John M. Maisch, of Philadelphia, and adopted.

REPORT OF THE COMMITTEE ON NOMINATIONS.

The Committee on Nominations, Charles A. Tufts, Chairman, presented the following nominations for officers and committees for the ensuing year.

For *President*, James Thornton Shinn, of Philadelphia, Pa.; for *1st Vice-President*, Geo. H. Schaefer, of Ft. Madison, Iowa; for *2d Vice-President*, Wm. F. Thompson, of Washington, D. C.; for *3d Vice-President*, Wm. Simpson, of Raleigh, N. C.; for *Treasurer*, Charles A. Tufts, of Dover, N. H.; for *Permanent Secretary*, John

M. Maisch, of Philadelphia, Pa.; for *Reporter on Progress of Pharmacy*, C. Lewis Diehl, of Louisville, Ky.

Executive Committee.—Geo. W. Kennedy (Chairman), Pottsville, Pa.; Adolph W. Miller, Philadelphia, Pa.; Charles Huston, Columbus, O.; Thomas Doliber, Boston, Mass.; John M. Maisch, ex officio.

Committee on Drug Market.—Louis Lehn (Chairman), of New York; James G. Steele, of San Francisco; Isaac L. Lyons, of New Orleans; Thomas Whitfield, of Chicago; John P. Muth, of Baltimore.

Committee on Papers and Queries.—J. U. Lloyd (Chairman), Cincinnati, O.; Starr H. Ambler, of New York; Wm. W. Bartlett, of Boston.

Business Committee.—H. J. Menninger (Chairman), of Brooklyn, N. Y.; Charles L. Eberle, of Philadelphia, Pa.; Ed. H. Heinitsch, of Columbia, S. C.

Committee on Prize Essays.—C. Lewis Diehl (Chairman), of Louisville, Ky.; John F. Judge, of Cincinnati, O.; E. Scheffer, of Louisville, Ky.

Committee on Legislation.—John M. Maisch (Chairman), of Philadelphia, Pa.; Jesse W. Rankin, of Atlanta, Ga.; Samuel A. D. Sheppard, of Boston, Mass.

On motion of P. W. Bedford, of New York, the report was accepted and the Association proceeded to ballot for President. C. S. Eastman, of Concord, N. H., and Jos. Roberts, of Baltimore, Md., acting as Tellers. James Thornton Shinn was unanimously elected. The Secretary was then instructed by the Association to cast an affirmative ballot for the remaining gentlemen put in nomination, and they were declared elected. Wm. Saunders, of London, Canada, and A. E. Ebert, of Chicago, were appointed as a Committee to escort the President-elect to the Chair, where he was introduced by President Sloan, and in a few remarks thanked the Association for the honor it had conferred upon him, and accepted the responsibility of its duties.

The Vice-Presidents-elect were also escorted to the platform, and with appropriate remarks accepted the honors conferred upon them.

The retiring President then thanked the Association for the kindness extended to him during his term of office.

J. F. Moore, of Baltimore, Md., and Geo. Ross, of Lebanon, Pa., were then appointed tellers, and the Association proceeded to the election of new members, 141 in number.

The Chairman of the Executive Committee called the attention of the Association to the Centennial Fund, and moved the appointment of a committee to solicit subscriptions. C. L. Eberle, of Philadelphia, Pa.; C. Lewis Diehl, of Louisville, Ky., and A. E. Ebert, of Chicago, were appointed, and the Committee subsequently reported that $120 had been raised.

The Chairman of the Executive Committee,

GEO. W. KENNEDY, then read the Annual Report of the Committee, which was accepted and referred to the Committee on Publication.

The report showed that the total membership at the close of the last annual meeting was 1,208. Since that date there had been a total loss of 58 members, leaving 1,150 in good standing. Of the 58 members lost, 12 active and 3 honorary members have died. To those 3 other names were added, making the total number of deaths 18 during the year.

Obituary sketches were read of A. E. Dunk, Erie, Pa.; Michael H. Gleason, Boston; Sam'l K. Gilman, Boston; Jas. W. Rideout, Brooklyn, John J. Cross, Louisville; Geo. J. McKay, Cal.; J. W. Haddox, Nashville; Jas. A. Gleeson, Boston; Prof. Fred. Mohr, Bonn; Prof. Chevalier, Paris, and Prof. H. A. L. Wiggers, Göttingen. The names added to the list were Wm. Neergaard, of New York; W. S. Merrell, of Cincinnati, and Thomas Lewis, of Brooklyn.

The report of the Permanent Secretary was then read, accepted, and referred to the Committee on Publication.

The Treasurer, Charles A. Tufts, of Dover, N. H., read his report which showed that there was a balance in the treasuary, not including the receipts of the present session, of $1,461.61.

The report was accepted and referred to an Auditing Committee, consisting of W. J. M. Gordon, of Cincinnati; C. H. Dalrymple, of Morristown, N. J., and Geo. W. Sloan, of Indianapolis.

C. Lewis Diehl, of Louisville, read the introduction to his report on the progress of Pharmacy, which was accepted and referred to the Committee on Publication.

The report of the Committee on Drug Market, L. Lehn, New York, Chairman, was read by J. P. Remington, of Philadelphia. It consisted of brief references to drugs and new remedies, chiefly as regards their price and general use.

The Committee on Prize Essays reported that they had not awarded any prize because none of the papers submitted were worthy of such commendation. The report was accepted and referred to the Committee on Publication.

The Committee on Legislation, John M. Maisch, Chairman, asked leave to submit the report in writing to the Committee on Publication, which was granted.

P. W. Bedford, Chairman of the Committee on Membership, then read his report which was accepted and referred to the Committee on Publication.

The results of the labors of the Committee have already been seen in the large list of new members.

The report of the Committee on Publication of the Report on the Revision of the U. S. Pharmacopœia was then read, and showed that contributions were received from more than 100 sources, amounting to $812.50. The expenditures were $733.71, leaving a balance of $78.79, which were transferred, by consent, to the Centennial fund.

On motion by H. J. Menninger, the financial portion of the report was referred to the Auditing Committee appointed to audit the Treasurer's report.

The Chairman of the Executive Committee read the names of sixteen additional applicants for membership, making a total of 157.

The Business Committee then called up the Report of the Committee on By-Laws [relating to business council], and it was read by J. P. Remington, of Philadelphia, Chairman of the Committee. The essential feature of the report was that it provided for creating a council that will take the place of the Executive and Business Committees, and thus relieve the general Association of its cumbersome detail work. After considerable conversational and explanatory discussion, the report of the Committee was adopted, three-fourths of those present voting in the affirmative. The Council will consist of seventeen members, nine of whom shall be elected by ballot by the Association in the following manner: *Three* to serve *one* year, *three* to serve *two* years, and *three* to serve *three* years, and at each subsequent annual meeting three members shall be elected to take the place of those whose terms of office shall then expire and to serve for a term of three years.

The President, the three Vice-Presidents, the Secretary, the Treasurer, the Local Secretary, and the Reporter on the Progress of Pharmacy shall be *ex officio* members of the Council.

The members of the Council to be elected at each annual meeting shall be placed in nomination by the Committee on Nomination. The officers shall consist of a Chairman, a Vice-Chairman, and a Secretary, to be elected by ballot annually by the Council. All vacancies in the Council shall be filled by the Association at the annual meeting next following their occurrence. The Council shall be charged with the transaction of unfinished business of the Association, and shall arrange the business of the sessions during the annual meetings, etc.

There shall be elected annually, by ballot, by the Council, three standing Committees; one on membership, one on publication, and one on finances, to whom shall be referred the business of these departments, and who shall report annually to the Council, or oftener if the Council shall so direct.

The Council shall have charge of the roll and the publication of the proceedings.

The names of the applicants for membership shall be read in a general session of the Association, and new members shall be elected by ballot by the Council. No name shall be voted upon unless presented by the Council and the Council shall decide upon any objection presented with reference to candidates for membership. All business of the Association not of a scientific character shall be in charge of the Council, the minutes of which shall be read in full at each annual meeting, and their acts shall be subject to revision by the Association.

On motion by Dr. E. R. Squibb, of Brooklyn, the Committee on Nomination was instructed to present the names of nine members for the Council to be balloted for at the last session of the present annual meeting.

Motion was then carried that when the Association adjourn, it adjourn to meet at 9 A.M. on Thursday.

The Association then adjourned and accompanied the Committee in making an examination of the specimens on exhibition.

THURSDAY, SEPT. 16TH.—*Third Day.—Third Session.*

The Association was called to order at 10 A.M. by the President.

The minutes of the session on Wednesday were read and approved.

The Secretary read a telegram from the California College of Pharmacy, bringing greetings to the American Pharmaceutical Association.

The Business Committee asked for the appointment of a committee which should report on the time and place for holding the next annual meeting.

Invitations were announced from Cincinnati, Chicago, Kansas City, Asbury Park, Washington, D. C., Milwaukee, and Peoria.

The President appointed as the Committee, G. F. H. Markoe, E. Lilly, and G. J. Luhn.

A NEW PLAN FOR THE FORMATION OF THE COMMITTEE ON NOMINATIONS.

DR. E. R. SQUIBB, of Brooklyn, introduced a resolution providing for a change in the By-Laws concerning the formation of the Committee on Nominations. It was substantially as follows: Immediately after the reading of the minutes of the preceding session, in the second session of each annual meeting, it shall be the duty of the presiding officer to call upon the delegation from States, Districts, Territories, and Provinces to select one delegate from each State, District, Territory, or Province, and report the name of such delegate to the Association as the chosen member of the Nominating Committee. The names so reported, together with the last President of the Association, or in his absence one of the last Vice-Presidents, shall constitute the Nominating Committee.

Jos. Roberts, of Baltimore, offered, as an amendment, that immediately after the reading of the minutes of the preceding session, in the second session of each annual meeting, it shall be the duty of the presiding officer to call upon the Association to nominate persons to be voted for for the positions of President, First, Second, and Third Vice-Presidents for the ensuing year, and that the Association shall at once proceed to elect these officers by ballot. All the other officers of the Association shall be nominated by the Council.

On motion by J. P. Remington, of Philadelphia, the consideration of the resolution and its amendment was made a special order for the afternoon session.

PHARMACOPŒIAL NOMENCLATURE.

OSCAR OLDBERG, of Washington, D. C., read an exhaustive paper on the above subject, which was discussed by J. P. Remington, E. R. Squibb, John M. Maisch, and then referred to the Committee on Publication.

On motion by P. W. Bedford a vote of thanks was given to Prof. Oldberg for his excellent paper.

REPORT OF COMMITTEE ON THE PRESIDENT'S ADDRESS.

The Chairman, E. Scheffer, of the Committee, reported in favor of empowering the Council to employ a suitable person to prepare an index of the Proceedings as was done in the years 1860 and 1870. Adopted.

The Committee also reported in favor of heartily indorsing the action of the Committee on Legislation, from the Western Druggists' Association in its efforts to secure either a repeal or modification of the law concerning the stamp tax on medicine, perfumery, etc.

On motion of J. F. Moore, of Baltimore, this portion of the report was subsequently amended by inserting the words "excepting proprietary medicines," and then adopted by the Association. Resolutions were also adopted providing for the carrying into effect of the action of the Association.

CHARLES F. FISH, of Saratoga, then read a paper on

THE MINERAL SPRINGS OF SARATOGA.

The author first gave a brief historical sketch of the village of Saratoga and its surroundings, and then proceeded to speak of the theories concerning the sources of its mineral waters. All the rocks of this county belong to the lowest systems of geological formations, and are both metamorphic and sedimentary in character (the geological formations were represented upon a chart). The theories concerning the origin of the mineral waters are two in number. First, that they are produced by the process of displacement, or percolation of the surface water through the rocks, and carrying with it the various constituents of which the rocks are composed, and reappear at the "fault" in the geological strata caused by an upheaval of remote origin.

Second, that the water derives its mineral properties at the "fault," and is essentially unimpregnated until that point is reached, and that its mineral constituents are obtained from the heated interior by the process of sublimation and subsequent absorption, while the gases are also derived from the same source in a free state.

The author then described the method of securing the mineral springs of this locality. The depth at which the rock is situated below the surface varies from fifteen to fifty-seven feet. The springs secured by drilling into the rock vary in depth from fifty to three hundred feet, and the temperature of the water obtained is practically isothermic; the maximum being 52° and the minimum 40° F., and the flow and temperature being uniform throughout the year. The Geyser, Vichy, Champion, Kissingen, and the so-called Magnetic (which is devoid of magnetic properties) springs were obtained by drilling.

The author then gave a classification of mineral waters, and subsequently referred to the therapeutical application of this natural remedial agent.

On motion by Mr. Eberle, the thanks of the Association were tendered to Mr. Fish, and the paper was referred to the Committee on Publication.

TIME AND PLACE FOR THE NEXT ANNUAL MEETING.

The Committee on the time and the place for holding the next Annual Meeting reported in favor of Washington, D. C., and the meeting to be held in September, 1881, beginning on the *second* Tuesday.

Discussion was postponed until the afternoon session, when the report was amended by designating Kansas City, Mo., as the place, and changing the time to the *third* Tuesday in August.

In the first morning session on Friday, the time of holding the Annual Meeting was changed to the *fourth* Tuesday in August.

C. LEWIS DIEHL, of Louisville, Ky., then read a paper on

FLUID EXTRACTS.

It was accepted and referred to the Committee on Publication.

DR. E. R. SQUIBB, of Brooklyn, asked Prof. Diehl whether or not he noticed any considerable proportion, with a weak percolate, that remained insoluble in the

fluid extract; and also whether he noticed that the residue of the evaporated portion was of the same character of the contents of the reserved portion. He regarded these as prime points in considering the value of the process proposed for making fluid extracts. The value of the claim for the process of repercolation depends particularly upon the total avoidance of heat in the making of fluid extracts, and if it be of any force at all, the above questions were pertinent to it.

Another point was with reference to the adoption of volume for weight, and not weight for weight, as decided upon by the Committee on the Revision of the Pharmacopœia. He asked whether any experiments had been made to determine whether or not the menstruum used might not be so modified as to bring the matter within practical reach; that is to say, cannot the menstruum be so modified as to represent weight for weight? The point made was that a menstruum that did not dissolve the constituents of the drug afterwards, although it might extract them, would not produce a liquid that contained the constituents of the original substance.

PROF. DIEHL replied that in his first paper on this subject he had stated that when the original menstruum was restored in the proportion in which it was before evaporation, the extracts were almost always dissolved again. That point he has settled with regard to the fluid extracts upon which he had made experiments previously, and in making the experiments reported in the present paper, he had found that the same thing held true with reference to nearly all of them. On general principles he was opposed to any such method, because it will lead us to adopt menstrua which will not be proper for the best extraction of a drug, holding everything extracted in solution. He thought, however, that if a reasonably fair set of formulæ could be obtained for the Pharmacopœia, we should be satisfied.

PROF. JOHN M. MAISCH, of Philadelphia, remarked that, while he believed with Dr. Squibb that it would be well to harmonize volume and weight, he would go even farther, cite instances in which that cannot be done, and give it as his opinion that fluid extracts should be made weight for weight. He thought it was a great mistake to use only weights in the Pharmacopœia, except with reference to one class of preparations.

DENSE FERRIC HYDRATE.

The next paper was read by G. F. H. MARKOE, of Boston. It was an answer to query 20.

WHAT ARE THE ADVANTAGES AND OBJECTIONS TO PREPARING FERRIC HYDRATE BY THE USE OF CONCENTRATED SOLUTIONS OF AMMONIA AND FERRIC SULPHATE, AS COMPARED WITH THE USE OF DILUTED SOLUTIONS, WITH THE SPECIAL OBJECT OF EMPLOYING THE FERRIC HYDRATE IN MAKING THE SCALE SALTS OF IRON?

He advocates the use of the dense of ferric hydrate, for use in making other iron preparations. This dense hydrate is, of course, obtained by using more concentrated solutions. It may be prepared either with ordinary or with stronger water of ammonia:

200 cc. of solution of tersulphate of iron are slowly added to 90 cc. of stronger water of ammonia (0.900), the resulting magma is thoroughly triturated, in a mortar, with 2,000 cc. of water, and allowed to settle for one-half hour when about 1,300 cc. of liquid may be decanted. This method of washing is repeated five times more, and, after the last washing, the mixture is allowed to stand at least three hours, when about 3,300 cc. of liquid may be poured off. With ordinary water of ammonia the proportions are: solution of tersulphate of iron 100 cc., and water of ammonia (0.960) 125 parts; for washing, 1,000 cc. of water are sufficient each time. When working with larger quantities, instead of using a mortar, the mixture may be rubbed through a hair-sieve.

Hydrated ferric oxide, as an antidote for arsenic should be prepared from *dilute* solutions, in order to insure more rapid solubility in acids.

The paper was accepted and referred to the Committee on Publication.

DR. SQUIBB thought that if Prof. Markoe had extended his observations to the precipitate afterward, and said how much sulphate of ammonia was left in the iron, he would have covered the ground more closely. He thought Prof. Markoe would have found by so doing that considerable sulphate of ammonia was left in the iron precipitate, and that it was not washable out, in the ordinary sense, but also that it was very effectual in rendering the hydrate soluble in citric acid, and other things added afterwards.

PROF. MARKOE remarked that he was aware of the fact mentioned by Dr. Squibb, in a chemical point of view, and that he recommended the preparation exhibited merely for specific purposes.

RHAMNUS PURSHIANA.

The next paper was an answer to query 12, and was read by GEO. W. KENNEDY, of Pottsville, Pa.

RHAMNUS PURSHIANA HAS ATTRACTED CONSIDERABLE ATTENTION AS A PURGATIVE REMEDY. WHAT FORMS OF GALENICAL PREPARATIONS OF IT ARE DESIRABLE, AND HOW SHOULD THEY BE PREPARED?

The writer recommended a fluid extract and an elixir as the only preparations, to his knowledge, at this time prescribed and used. He recommended an elixir, as being a weaker pharmaceutical preparations, because it is more palatable. The formula given for the fluid extract was to take of Rhamnus purshiana, ℥ xvi.; Alcohol [95 per cent], 2 vols.; and Water, 1 vol. For the elixir take of Rhamnus purshiana, ℥ iij.; Alcohol and Water, a sufficient quantity; Bower's glycerin, ℥ iij; Oil of orange, gtts. vi.; and Oil of cinnamon, gtts. ij.

ASPIDIUM MARGINALE.

GEO. W. KENNEDY also read an answer to query 16.

ASPIDIUM MARGINALE HAS BEEN FOUND BY MR. C. H. CRESSLER TO BE VERY SIMILAR IN ITS MEDICINAL VALUE TO THE EUROPEAN ASPIDIUM FILIX MAS. CAN THE RHIZOME OF THE AMERICAN PLANT BE OBTAINED IN QUANTITIES? IF SO, SHOULD THE LATTER NOT BE RECOGNIZED BY OUR PHARMACOPŒIA IN PLACE OF FILIX MAS?

The answer was, that, since its therapeutic properties have been found efficient, there should be no objection to its introduction into the Pharmacopœia, and the two substances used indiscriminately in the preparation of the oleoresin. The papers were referred to the Committee on Publication.

The next paper was an answer by S. L. COFFIN, of Chicago, to query 17, and was read by Dr. H. J. Menninger.

AROMATIC SPIRIT OF AMMONIA HAS BEEN PROPOSED AS A MENSTRUUM FOR EXHAUSTING LUPULIN. HAS THIS ANY ADVANTAGE OVER ALCOHOL?

He stated that he finds them equally good for this purpose. He has also learned from physicians that the tincture prepared with the aromatic spirit of ammonia presents no therapeutic advantages.

Query 9.—SHOULD A FORMULA FOR COLOGNE-WATER BE MADE OFFICINAL? was answered in the affirmative by C. M. MILLER, of Mansfield, O., and the communication was read by the Chairman of the Business Committee.

These papers took the usual reference.

The Committee on the Centennial Fund then reported that the amount of money in their hands was $577.81, thus insuring to the Association the $500 offered by residents of Philadelphia and vicinity.

The Association then adjourned to meet at 3 P.M.

Third Day—Fourth Session.

The Association was called to order at 3.45 P.M. by the 1st Vice-president, G. H. SCHÆFER, of Fort Madison, Iowa.

The special order being Dr. Squibb's resolution, providing for a new plan of forming the Nominating Committee,

MR. JOS. ROBERTS, of Baltimore, offered his amendment, which gave rise to discussion that was participated in by J. P. Remington, A. E. Ebert, L. E. Nicot, G. F. H. Markoe, C. Eberle, T. R. Baker, T. F. Main, and J. F. Moore.

MR. NICOT, of Brooklyn, moved to postpone the question indefinitely. Lost: A., 44; N. 53. The discussion was continued, and W. P. DE FOREST, of Brooklyn, moved to lay the subject on the table. A., 52; N., 52. The Vice-president cast his vote in the negative, and after further discussion, a vote was reached upon the substitute, which was adopted. A., 62; N., 21. A vote by ballot was then taken on the original resolution as amended, and it failed to secure the requisite three-fourths to adopt it. A., 69; N., 44. A ballot was then taken for the names of sixteen candidates for membership, and all were unanimously elected.

The Auditing Committee reported that they found the Treasurer's account correct, and also the financial portion of the report of the Committee on the Revision of the Pharmacopœia. The report was adopted, and a special vote of thanks extended to the Treasurer for his faithful and efficient labors.

J. U. LLOYD, of Cincinnati, O., then read a paper in answer to Query 21:

THE RESIN OF LEPTANDRA VIRGINICA (THE LEPTANDRIN OF COMMERCE) VARIES MUCH IN APPEARANCE AND SENSIBLE PROPERTIES. TO WHAT CAUSE ARE THESE VARYING RESULTS TO BE ATTRIBUTED? WHAT IS THE BEST PROCESS FOR THE PREPARATION OF THE RESIN, AND WHAT IS THE AVERAGE YIELD OF THE ROOT?

The commercial "leptandrin," as made by different manufacturers, varies considerably in appearance. This is owing to two causes, viz.: first, to a difference in fineness of powder; and second, to a difference in composition.

If an alcoholic tincture of the root of *Leptandra Virginica* is evaporated to a thick syrup, and the latter is poured into cold water, a black, tarry substance separates. On being washed with water, it becomes tasteless, and may be dried and powdered. At present, manufacturers probably prepare "leptandrin" by another process, and not by precipitation. Prof. John King made his original preparation from the root in this manner. But his therapeutical observations are based on the results obtained from a dried mixture of the aqueous and alcoholic extract.

"Leptandrin" was discovered by Merrell, in 1850. This substance, however, has been found to be devoid of medicinal properties. The active principle has so far not been isolated; yet it is well known that the root, as well as the active kinds of "leptandrin," possess laxative properties.

If the liquid remaining after the precipitation of the tarry substance previously mentioned is filtered, and the filtrate boiled with five per cent of sulphuric acid until it ceases to be bitter, a second black, spongy substance separates, which is also inert, and the liquid itself has also lost every trace of activity. From this Mr. Lloyd concludes that the root probably contains a glucoside soluble in water, upon which its activity depends. By evaporating the aqueous solution, therefore, which remains after the first tarry substance has been precipitated, an extract is obtained, possessing the medicinal properties of the root. But this extract cannot be sufficiently dried to be reduced to powder, and requires the addition of some other substance. It occurred to Mr. Lloyd to use for this purpose the hard, asphaltum-like resin first precipitated. This is easily reduced to powder, and in this condition thoroughly mixed with the aqueous extract, which is then spread in thin layers, and exposed to a current of warm air in a drying room. In the course of ten to fourteen days, it may then be reduced to powder. The latter must be kept in tight vessels, and not be exposed to a moist atmosphere, to prevent it from agglutinating.

Mr. Lloyd exhibited a large mass of the precipitates above mentioned, the result of working with 1,000 lbs. of the root.

The next paper was read by FREDERICK B. POWER, of Philadelphia, and entitled:

CONSTITUENTS OF THE RHIZOMA OF ASARUM CANADENSE.

This was a volunteer paper, and a special vote of thanks was tendered to its author.

The Executive Committee then announced the names of *eight* candidates for membership. They were elected at a subsequent session, making in all 165 new members.

The Association then adjourned, to meet on Friday at 9 A.M.

FRIDAY, SEPT. 17TH.—*Fourth Day.—Fifth Session.*

The Association was called to order at 9.30 A.M. by the President, and the minutes of the previous session were read and approved.

MR. A. G. VOGELER read a paper on a

FORMULA FOR SYRUP OF LICORICE ROOT.

He recommended the following processs:

Take of Licorice root, cut into small pieces and deprived of dust by sifting, 8 ℥; Water of ammonia, 1 fl. ℥; Water (if possible, distilled), 48 fl. ℥; Alcohol (stronger alcohol), 2 fl. ℥; Magnesium carbonate, in fine powder, ½ ℥; Sugar, 48 ℥. Mix the water and ammonia, and pour one-third of the menstruum on the licorice root, previously moistened and packed in a glass percolator provided with a cotton plug and closed with a cork. Cover the percolator well, allow to macerate two or three days, and let the saturated liquid run off. Repeat this twice more with the remainder of the menstruum. Shake the carbonate of magnesium with the infusion, filter, evaporate the filtrate to 16 fl. ℥, strain, and add water through the strainer to restore the measure of 16 fl. ℥. Then add the sugar, and heat the syrup gradually to boiling. When cold, strain and incorporate the alcohol.

This was followed by a paper by LOUIS DOHME, of Baltimore:

"WOULD THE SUBSTITUTION OF CITRATE OR SODIUM FOR CITRATE OF AMMONIUM IN THE OFFICINAL PYROPHOSPHATE OF IRON MAKE THE LATTER LESS LIABLE TO BECOME INSOLUBLE IN KEEPING?"

A paper was also read upon the same subject by C. CASPARI, JR., Baltimore, Md.

ELIXIRS.

A paper on elixirs, accompanied by samples, was then read by R. W. GARDNER, of New York, in which, after pointing out the absolute necessity of establishing standard formulæ for the principal elixirs, he proposes that the Association appoint a Standing Committee on Elixirs, and that the members be requested to send to this Committee samples of all elixirs considered proper; each bottle to bear a label giving the working formula, date of preparation, and name of contributor; that the Committee prepare elixirs from such published formulæ as may be thought proper; that these various specimens be kept and their condition reported upon, or exhibited each year, for say three years, at the end of which period such preparations as have stood the test of time, and are the most palatable, etc., be given the sanction of the Association, credit being given to the originator.

The author submits the following formulæ, and premises some remarks of which we give a short abstract:

In preparing elixirs of pepsin *in combination with bismuth*, Boudault's pepsin has been found preferable to that prepared by Scheffer's method, as the latter contains chloride of sodium and free hydrochloric acid, which decompose the bismuth salt. These bismuth and pepsin elixirs must be made *exactly* neutral. In all elixirs containing alkaloids and their salts, citric acid should be added in small proportion, which is to be again completely neutralized, upon the completion of the preparation, by ammonia, if iron or bismuth salts are present. If the acid is not used, the alkaloids or their salts will gradually

separate; and if the elixir of pyrophosphate of iron be left acid, the iron salt decomposes.

In preparing elixirs containing alkaloids, the alcoholic flavored vehicle is first made, reserving a portion of the alcohol. The citric acid is then dissolved in q. s. of boiling water, the alkaloids are added, stirred until dissolved, and added, under stirring, to the elixir.

In the elixir of phosphates of iron, quinia and strychnia, the tribasic *ferric* phosphate in combination with citrate of ammonium is used. This is more stable and unaffected by light than the pyrophosphate. Addition of about 12% of glycerin to this elixir favors the blending of its constituents.

1. *Curaçao Flavor.*
   Tinct. curaçoa co.....fl. oz. 8
   " fresh orange peel..... " 16
   Orange-flower water..... " 12
   Syrup..... " 70
   Alcohol..... " 72
   Water..... " 36

2. *Tincture Fresh Orange Peel.*
   Outer rind of fresh orange.....oz. 8
   Alcohol.....q. s. to percolate fl. oz. 16

3. *Tincture of Curaçao, Compound.*
   Curaçao peel, ground.....oz. 24
   Cloves, " .....oz. 1
   Canella, " .....oz. 1
   Alcohol.....q. s. to percolate fl. oz. 64

4. *Fresh Lemon Peel.*
   Outer rind of fresh lemon.....oz. 16
   Alcohol.....q. s. to percolate fl. oz. 32

5. *Citro-Ammoniacal Solution of Ferric Phosphate.*
   Phosphate of sodium.....oz. 6½
   Solution of tersulphate of iron.....fl. oz. 7
   Citric acid.....grs. 738
   Water of ammonia, U. S. P.....fl. oz. 16

Dissolve the phosphate of sodium in q. s. water, and precipitate it with the solution of tersulp. of iron. Dissolve the citric acid in the ammonia, add the solution to the washed phosphate of iron, and stir until this is dissolved.

6. *Solution of Citrate of Ammonium.*
   Citric acid.....fl. oz. 16
   Water of ammonia, q. s. to neutralize.

7. *Solution of Saccharated Pepsin.*
   Saccharated pepsin.....oz. 3 grs. 310
   Water.....fl. oz. 16
   Hydrochloric acid.....fl. dr. 3½
   Glycerin.....fl. oz. 4

8. *Elixir of Ammonio-Citrate of Bismuth.*
   Ammonio-citrate of bismuth....oz. 2 grs. 64
   Oil of orange.....fl. dr. 1½
   Orange-flower water.....fl. oz. 4
   Phosphate of calcium .....q. s.
   Extract of vanilla.....fl. oz. ½
   Alcohol.....fl. oz. 24
   Syrup.....fl. oz. 24
   Water.....q. s. to make gall. 1

The phosphate of calcium in this and other succeeding formulæ is to be used as a triturant, to incorporate the oils with the water and alcohol, and to obtain a clear filtrate.

9. *Elixir of Blackberry Root.*
   Fluid extract of blackberry.....fl. oz. 5 ℥ 320
   Tincture of orange peel.....fl. oz. 2
   Oil of orange.....℥ 15
   " cassia.....℥ 8
   " anise.....℥ 8
   " coriander.....℥ 8
   " nutmeg.....℥ 4
   " rose.....℥ 4
   Extract of vanilla.....fl. oz. 2
   Phosphate of calcium.....q. s.
   Syrup.....fl. oz. 52
   Alcohol.....fl. oz. 28
   Water.....q. s. to make gall. 1

10. *Citro-Ammoniacal Solution of Chloride of Iron.*
    Solution of chloride of iron...fl. oz. 48
    Citric acid.....oz. 54 grs. 197
    Carbonate of sodium, cryst.....oz. 100 grs. 5
    Water.....q. s.

Dissolve the carbonate and acid in 6 pints of water; mix this solution gradually with the iron solution, and add water to make 12 pints.

11. *Elixir of Bromide of Calcium.*
    Bromide of calcium.....oz. 10 grs. 320
    Elixir of orange comp.....q. s. to gall. 1

12. *Elixir of Bromide of Potassium,*

13. *Elixir of Bromide of Sodium* are prepared like No. 11.

14. *Elixir of Calisaya Bark.*
    Tincture of orange peel.....fl. oz. 2
    Oil of orange.....℥ 15
    " cassia.....℥ 8
    " anise.....℥ 8
    " coriander.....℥ 8
    " nutmeg.....℥ 4
    " rose.....℥ 4
    Extract of vanilla .....fl. oz. 2
    Syrup.....fl. oz. 50
    Alcohol.....fl. oz. 31
    Citric acid.....grs. 20
    Sulphate of quinia.....grs. 130
    " " cinchonia.....grs. 65
    Phosphate of calcium.....q. s.
    Caramel (sugar coloring).....℥ 10
    Water.....q. s. to make gall. 1

15. *Elixir of Calisaya and Iron.*
    Tincture of lemon peel.....fl. oz. 1 ℥ 360
    Oil of orange.....℥ 65
    " lemon.....℥ 30
    " cloves.....℥ 30
    " cassia.....℥ 6
    " nutmeg.....℥ 6
    Alcohol.....fl. oz. 21
    Pyrophosphate of iron.....fl. oz. 2 grs. 64
    Sulphate of quinia.....grs. 130
    " " cinchonia.....grs. 65
    Phosphate of calcium.....q. s.
    Syrup.....fl. oz. 48
    Citric acid.....grs. 25
    Water of ammonia.....q. s.
    Glycerin.....fl. oz. 1 ℥ 360
    Water.....q. s. to make gall. 1

16. *Elixir of Calisaya, Iron, and Bismuth.*
    Ammonio-citrate of bismuth.....fl. oz. 2 grs. 64
    Water, q. s. to dissolve.
    Elixir of calisaya and iron q. s. to make gall. 1

17. *Elixir of Calisaya, Iron, Bismuth, and Strychnia.*
    Citrate of strychnia.....grs. 9
    Boiling water.....fl. oz. ½
    Alcohol.....fl. oz. ½
    Dissolve, filter, and add elixir of calisaya, iron, and bismuth, q. s. to make 8 pints 7 fl. oz.

18. *Elixir of Calisaya, Iron, Pepsin, and Bismuth.*
    Pyrophosphate of iron.....oz. 2 grs. 64
    Boiling water, q. s. to dissolve.
    Elixir of pepsin, bismuth, and calisaya.....q. s. to make gall. 1

19. *Elixir of Calisaya, Iron, and Strychnia.*
    Citrate of strychnia.....grs. 10
    Boiling water.....fl. oz. ½
    Alcohol.....fl. oz. ½
    Dissolve, filter, and add elixir of calisaya and iron.....q. s. to make gall. 1

20. *Elixir of Pepsin, Bismuth, and Strychnia.*
    Citrate of strychnia.....gr. 8⅝
    Alcohol.....fl. oz. ½
    Water.....fl. oz. ½
    Elixir of pepsin and bismuth.....q. s. to gall. 1

21. *Elixir of Cinchonidia, Iron, and Strychnia.*
Phosphate of iron (citro-ammoniacal)....oz. 2 grs. 64
Sulphate of cinchonidia....oz. 1 grs. 32
Citrate of strychnia....grs. 8 8/10
Citric acid....grs. 20
Tincture of orange peel....fl. oz. 1½
Extract vanilla....fl. oz. 1½
Phosphate of calcium....q. s.
Oil of orange....℥ 60
" cassia....℥ 30
" anise....℥ 30
" coriander....℥ 30
" nutmeg....℥ 10
Syrup....fl. oz. 36
Glycerin....fl. oz. 10
Alcohol....fl. oz. 26
Water....q. s. to make gall. 1

22. *Elixir of Coca Leaves.*
Fluid extract of coca....fl. oz. 21 ℥ 160
Alcohol....fl. oz. 13
Glycerin....fl. oz. 5
Curaçao flavor....fl. oz. 5
Sherry wine....fl. oz. 8
Sol. of caustic soda (sp. gr. 1.22)..fl. oz. ½
Elixir of orange-peel....q. s. to gall. 1
The soda is added to increase the activity.

23. *Elixir of Corydalis, Compound.*
Fl. extract of corydalis....fl. oz. 8 grs. 256
" " " stillingia....fl. oz. 8 grs. 256
" " " prickly ash bark..fl. oz. 8 grs. 256
Iodide of potassium....oz. 1 grs. 32
Glycerin....fl. oz. 3
Elixir of orange comp....q. s. to gall. 1

24. *Elixir of Gentian and Chloride of Iron.*
Citro-ammoniacal solution of chloride of iron....fl. oz. 5℥ 160
Fl. ext. of gentian....fl. oz. 8℥ 256
Oil of orange....℥ 16
" cassia....℥ 8
" anise....℥ 8
" coriander....℥ 8
" nutmeg....℥ 4
Extract of vanilla....fl. oz. 2
Tincture of orange peel....fl. oz. 2
Alcohol....fl. oz. 22
Syrup....fl. oz. 24
Glycerin....fl. oz. 4
Water....q. s. to gall. 1

25. *Elixir of Guarana.*
Fl. ext. of guarana....fl. oz. 21 ℥ 160
Carbonate of magnesium....oz. 3
Curaçao flavor....fl. oz. 16
Tincture of orange peel....fl. oz. 7
" lemon peel....fl. oz. 1
Extract of vanilla....fl. oz. 2
Alcohol....fl. oz. 7
Syrup....fl. oz. 32
Glycerin....fl. oz. 10
Water....q. s. to 1 gall.

26. *Elixir of Hops.*
Fl. ext. of hops....fl. oz. 21 ℥ 160
Tincture of orange....fl. oz. 6
Curaçao flavor....fl. oz. 6
Syrup....fl. oz. 32
Alcohol....fl. oz. 24
Phosphate of calcium....q. s.
Glycerin....fl. oz. 8
Water....q. s. to gall. 1

27. *Elixir of Pepsin, Bismuth, Strychnia, and Iron.*
Pyrophosphate of iron....oz. 2 gr. 64
Boiling water....fl. oz. 4
Dissolve and add
Elixir of pepsin, bismuth, and strychnia....q. s. to gall. 1

28. *Elixir Laxativum.*
Fl. ext. of rhubarb....fl. oz. 4
" " senna (deodorized)....fl. oz. 2℥ 320
" " taraxacum....fl. oz. 4
" " buckthorn bk....fl. oz. 2
" " ginger....fl. dr. 2
Glycerin....fl. oz. 16
Phosphate of calcium....oz. 5 gr. 160
Rochelle salt....oz. 4
Bicarbonate of sodium....oz. 2 gr. 160
Tincture of lemon peel....fl. oz. 3½
Syrup....fl. oz. 28½
Alcohol....fl. oz. 19
Tincture of orange peel....fl. oz. 3½
Water....q. s. to gall. 1

29. *Elixir of Orange, Compound.*
Tincture of orange peel....fl. oz. 5
Curaçao flavor....fl. oz. 5
Orange-flower water....fl. oz. 3
Syrup....fl. oz. 26
Alcohol....fl. oz. 26
Phosphate of calcium....q. s.
Water....q. s. to gall. 1

30. *Elixir of Pepsin (Wine of Pepsin).*
Sol. of saccharated pepsin....fl. oz. 24 ℥ 123
Hydrochloric acid C. P....℥ 200
Glycerin....fl. oz. 5½
Tincture of orange peel....fl. oz. 3
Phosphate of calcium....q. s.
Orange-flower water....fl. oz. 3
Syrup....fl. oz. 20
Alcohol....fl. oz. 17
Sherry wine....q. s. to gall. 1

31. *Elixir of Pepsin and Bismuth.*
Boudault's pepsin....oz. 5 gr. 160
Water....fl. oz. 16
Alcohol....fl. oz. 3
Dissolve and filter (*a*).
Tincture of orange peel....fl. oz. 5½
" lemon peel,
Phosphate of calcium....q. s.
Water....fl. oz. 15
Dissolve and filter (*b*).
Ammonio-cit. of bismuth....oz. 2 gr. 64
Water....fl. oz. 4
Dissolve and filter (*c*).
Alcohol....fl. oz. 8
Syrup....fl. oz. 24
Water....q. s. to gall. 1
Add *b* to *a*; then add *c*, and finally the other ingredients.

32. *Elixir of Pepsin, Bismuth, and Calisaya.*
Sulphate of quinia....gr. 130
" cinchonia....gr. 65
Alcohol....fl. oz. 1
Boiling water....fl. oz. 1
Citric acid....gr. 10
Sol. of cit. of ammonium....fl. oz. 1
Elixir of pepsin and bismuth....q. s. to make gall. 1

33. *Wine of Beef.*
Extract of beef....oz. 4½
Boiling water, q. s. to dissolve; filter.
Curaçao flavor....fl. oz. 4
Tincture of orange peel....fl. oz. 4
Syrup....fl. oz. 26
Alcohol....fl. oz. 21
Sherry wine....q. s. to gall. 1

34. *Wine of Beef, Iron, and Calisaya.*
Sulphate of quinia....gr. 130
" cinchonia....gr. 65
Citric acid....gr. 20
Alcohol....fl. oz. 8
Boiling water....fl. oz. 8
Wine of beef and iron....q. s. to gall. 1

35. *Elixir of Phosphate of Iron, Quinia, and Strychnia.*

Citro-ammoniacal sol. of phosphate of iron	fl. oz. 2 gr. 64
Sulphate of quinia	oz. 1 gr. 32
Citrate of strychnia	gr. 8
Tincture of orange peel	fl. oz. 1½
Extract of vanilla	fl. oz. 1½
Citric acid	gr. 20
Phosphate of calcium	q. s.
Oil of orange	♏ 15
" cassia	♏ 8
" anise	♏ 8
" coriander	♏ 8
" nutmeg	♏ 4
Syrup	fl. oz. 38
Glycerin	fl. oz. 12
Alcohol	fl. oz. 28
Water	q. s. to gall. 1

36. *Elixir of Pyrophosphate of Iron, Quinia, and Strychnia.*

Prepare as No. 35, except that pyrophosphate of iron is substituted for the citro-ammoniacal solution of phosphate of iron.

37. *Elixir of Pyrophosphate of Iron.*

Pyrophosphate of iron	oz. 2 gr. 64
Boiling water	fl. oz. 6
Tincture of orange peel	fl. oz. 3½
Orange-flower water	fl. oz. 3½
Syrup	fl. oz. 24
Alcohol	fl. oz. 26
Phosphate of calcium	q. s.
Water	q. s. to gall. 1

38. *Elixir of Rhubarb and Magnesia.*

Fl. ext. of rhubarb	fl. oz. 12 ♏ 384
" " licorice	fl. oz. 2
Oil of spearmint	♏ 25
" cassia	♏ 5
Tincture of orange peel	fl. oz. 1½
Phosphate of calcium	q. s.
Carbonate of magnesium	oz. 8 gr. 356
Acetic acid	fl. oz. 37
Water	q. s. to gall. 1

39. *Elixir of Taraxacum, Compound.*

Fl. ext. taraxacum	fl. oz. 3 ♏ 96
" gentian	fl. oz. 6 ♏ 192
" licorice	♏ 384
" wild cherry	♏ 384
Oil of orange	♏ 12
" cassia	♏ 6
" anise	♏ 6
" coriander	♏ 6
" nutmeg	♏ 3
" rose	♏ 3
Tincture of cardamom	dr. 10
Phosphate of calcium	q. s.
Alcohol	fl. oz. 24
Syrup	fl. oz. 31
Water	q. s. to gall. 1

40. *Elixir of Valerianate of Ammonium.*

Valerianate of ammonium	oz. 4 gr. 128
Tincture of orange peel	fl. oz. 8
Curaçao flavor	fl. oz. 4
Phosphate of calcium	q. s.
Orange-flower water	fl. oz. 4
Syrup	fl. oz. 36
Alcohol	fl. oz. 21
Water	q. s. to gall. 1

Water of ammonia q. s. to exactly neutralize.

41. *Sweet Wine of Iron.*

Ammon.-citrate of iron	oz. 2 gr. 64
Water, q. s. to dissolve.	
Tincture of orange peel	fl. oz. 8
Curaçao flavor	fl. oz. 8
Syrup	fl. oz. 24
Alcohol	fl. oz. 8
Sherry wine	q. s. to gall. 1

42. *Elixir of Valerianate of Ammonium and Quinia.*

Sulphate of quinia	oz. 2 gr. 64
Alcohol	fl. oz. 8
Citric acid	gr. 75
Boiling water	fl. oz. 3

Dissolve and add

Valerianate of ammonium	gr. 214
Elixir of valerianate of ammon.	q. s. to gall. 1

Water of ammonia q. s. to exactly neutralize.

43. *Wine of Beef and Iron.*

Extract of beef	oz. 4
Pyrophosphate of iron	oz. 2, gr. 64
Boiling water, q. s. to dissolve.	
Curaçao flavor	fl. oz. 4
Tincture of orange peel	fl. oz. 4
Syrup	fl. oz. 26
Alcohol	fl. oz. 21
Sol. of citrate of ammonium	fl. oz. 4
Sherry wine	q. s. to gall. 1

44. *Wine of Calisaya.*

Tincture of orange peel	fl. oz. 2
Oil of orange	♏ 15
" cassia	♏ 8
" anise	♏ 8
" coriander	♏ 8
" nutmeg	♏ 4
" rose	♏ 4
Extract of vanilla	fl. oz. 2
Syrup	fl. oz. 50
Citric acid	gr. 20
Sulphate of quinia	gr. 130
" cinchonia	gr. 65
Phosphate of calcium	q. s.
Alcohol	fl. oz. 16
Sherry wine	fl. oz. 48
Water	q. s. to gall. 1

45. *Bitter Wine of Iron.*

Citrate of iron and quinia	oz. 2 gr. 64
Curaçao flavor	fl. oz. 8
Tincture of orange peel	fl. oz. 8
Phosphate of calcium	q. s.
Syrup	fl. oz. 16
Alcohol	fl. oz. 8
Sherry wine	fl. oz. 64
Water	q. s. to gall. 1

FRUIT SYRUPS.

A. G. VOGELER, of Chicago, then read a paper in answer to Query 10. FRUIT SYRUPS; AN ESSAY ON THEM, WITH SPECIAL REFERENCE TO THEIR PROBABLE INTRODUCTION INTO THE NEXT PHARMACOPŒIA. It took the usual reference.

These may be prepared either by combining the juice, expressed from the fruit, with sugar, or the uninjured berries are mixed with the sugar, when the latter will extract the juice, leaving the berries shrivelled and tasteless. Among the fruit syrups discussed by Mr. Vogeler, *Syrup of Raspberries* is the most important. He quotes the following different methods of preparation:

1. Contuse the berries, put them into a suitable vessel or vat, add 2% of sugar, and allow them to ferment at a temperature of 70–80° F. from three to four days, until the pectin has separated, and no more signs of fermentation are noticeable. Express, let the juice settle for a few days in a cool place, decant and filter. Preserve the juice by Appert's process (introducing the juice into stout bottles, not quite filling them, corking, setting them into a vessel full of cold water, with straw packed between them, so that the water reaches up to the shoulder, and slowly heating the water to boiling; then securing the cork with wax), or convert it into a syrup by dissolving 9 parts of sugar in 5 of the juice, and heating to boiling.

2. A better way is to add at once to the freshly bruised fruit 5 to 6 per cent of alcohol, then proceed as in No. 1.

3. Crush the berries in a glass vessel with a wooden pestle, add 5–10% of cane or grape sugar, and allow to

stand, stirring occasionally. When fermentation is completed the juice becomes clear. Filter and bottle.

4. Put 4 lb. of the berries into a china bowl with 1 qt. of water containing 2½ oz. of citric acid in solution. Let remain 24 hours. Strain, taking care not to bruise the fruit. To 1 pint of the clear liquid add 1½ lb. of sugar, and stir until it is dissolved.

5. Proceed as in No. 1. When the fermentation is nearly over, express the juice, and add to each pound of it 1 fl. oz. of deodorized alcohol. Set it aside for one night, filter and bottle, or convert into syrup.

6. Macerate the berries interspersed with layers of sugar, 1¾ lbs. to 1 lb. of berries, for 24 hours in a cool cellar, and drain off the juice. Preserve by Appert's process.

7. Add to the foregoing product some alcohol or a little bisulphite of lime.

8. Pure fruit juice, 16 ℥ ; dil. acetic acid, 1 fl. ℥ ; water, 7 fl. ℥ ; granulated sugar, 3 lbs. Dissolve without heat. The acetic acid is considered by the author as objectionable.

Tests for determining the Purity of Syrup of Raspberries.

Mix equal volumes of the syrup and of 10% ammonia ; the color of the genuine syrup changes to a violet with a light tinge of green. If, however, the color changes instantly, or soon, to green or yellow, some foreign vegetable coloring matter is present. If it becomes colorless, or nearly so, it is sophisticated with rosaniline. The latter [or fuchsine] may also be detected by macerating in the syrup some white wool or silk, and rinsing this afterwards with water. Water removes the raspberry stain, but not the aniline color. If the fabrics are dipped into ammonia, the aniline dye will vanish, but will reappear on being moistened with acetic acid.

The *Nominating Committee* then completed their report, as follows :

For *Local Secretary*, William F. Ford, of Kansas City, Mo.

For *Members of the Council*, to serve *three* years, J. P. Remington, of Philadelphia, Pa.; G. W. Kennedy, of Pottsville, Pa., and H. J. Menninger, of Brooklyn, N. Y. To serve *two* years, Thomas Whitfield, of Chicago; Wm. Saunders, of London, Ont., Canada, and S. A. D. Sheppard, of Boston, Mass. To serve *one* year, W. J. M. Gordon, of Cincinnati, O.; John Ingalls, of Macon, Ga., and Joseph Roberts, of Baltimore.

The Secretary was instructed to cast an affirmative ballot for Mr. Ford for Local Secretary.

The Association then balloted for members of the Council, and the gentlemen nominated by the Committee were unanimously elected.

THE COMMITTEE ON NEW MEMBERSHIP was enlarged, so that it consists of the following members: P. W. Bedford, of New York ; E. C. Jones, of Philadelphia ; S. A. D. Sheppard, of Boston ; R. H. Cowdrey, of Chicago ; G. A. Schæfer, of Ft. Madison, Iowa ; Jas. G. Steele, of San Francisco, Cal.; Thos. J. Casper, of Springfield, O.; Wm. Moll, of Saginaw City, Mich.; Rudolph H. Hasting, of Denver, Col.; H. J. Rose, of Toronto, Ont., Canada ; L. M. Conner, of Dallas, Texas, and John Ingalls, of Macon, Ga.

A vote of thanks to the Committee on New Membership for last year was unanimously adopted.

On motion by the Business Committee, a vote of thanks was unanimously tendered to the Local Secretary, Mr. Chas. F. Fish, and to the citizens of Saratoga, for the efficient and courteous management of the details connected with the Annual Meeting.

The names of three candidates for membership were then read, and the Association took a recess of five minutes.

At the expiration of that time, the Association was called to order, and the minutes of the previous session were read and approved.

The three candidates for membership were then balloted for, and unanimously elected, making a total of one hundred and sixty-eight new members elected at this Annual Meeting.

A. B. HUESTED, of Albany, moved that the thanks of the Association are hereby tendered to the proprietors of the Saratoga mineral springs, for their kindness and courtesy during the present Annual Meeting of the Association.

C. EBERLE, of Philadelphia, moved that a vote of thanks be tendered the proprietors of the Congress Hall, which was unanimously carried.

On motion by WM. SAUNDERS, the thanks of the Association were extended to the retiring officers for their efficient services.

C. H. DALRYMPLE, Chairman of the Committee, reported that the Committee had carefully examined all the exhibits, and asked permission to prepare their report in writing for the Committee of Publication, within thirty days. Leave was granted.

The list of queries was then read by the Secretary.

On motion of H. J. MENNINGER, the queries to which no response had been received will be dropped from the list unless notice be given to the Secretary at once, by the gentlemen who accepted them, that they wish to continue them for another year.

The minutes of the present session were then read and approved, and the President then declared the Association adjourned, to meet in Kansas City on the fourth Tuesday of August, 1881.

The whole number registered at the twenty-eighth Annual Meeting was one hundred and eighty-seven.

LIST OF QUERIES TO BE ANSWERED AT THE TWENTY-NINTH ANNUAL MEETING, 1881, TO BE HELD IN KANSAS CITY, MO.

QUERY 1. What solutions of poisonous substances, usually prescribed in small amount, is it desirable to keep ready prepared in the prescription case ; what strength of each is most convenient? Name the menstruums.

Accepted by Geo. W. Sloan, Indianapolis, Ind.

2. In making berberine from Hydrastis Canadensis, the mother liquor, after the separation of the berberin, contains substances of interest to pharmacists ; what are these?

Accepted by Emil Scheffer, Louisville, Ky.

3. What menstruum is best adapted to extract and hold in solution the desirable principles of licorice-root?

Accepted by E. W. Shedd, Boston, Mass.

4. How is Cimicifugin (Macrotin) prepared? Give its history.

Accepted by J. U. Lloyd, Cincinnati, O.

5. The result of the decomposition in organic solutions containing submerged cryptogamic growth.

Accepted by E. B. Stuart, Chicago, Ill.

6. Give a history of the microscopical examination of the Rhizoma of Apocynum Androsæmifolium, and of Apocynum Cannabinum.

Accepted by E. B. Stuart, Chicago, Ill.

7. What melting point is desirable for petroleum ointments?

Accepted by Charles Rice, New York.

8. Is the yellow principle of Berberis Aquifolium not identical with Berberine?

Accepted by Frederick B. Power, Philadelphia, Pa.

9. What is the crystalline form of the white alkaloids of Hydrastis Canadensis (Hydrastia). What is the formula?

Accepted by Fred. B. Power, Philadelphia, Pa.

10. Can sugar of milk be profitably prepared in this country?

Accepted by J. L. Lemberger, Lebanon, Pa.

11. It is desirable to possess a method for separating and estimating glycerin in mixtures and pharmaceutical preparations ; can such a method be devised so as to obtain the glycerin free from foreign admixtures?

Accepted by B. F. Davenport, Boston, Mass.

12. Can grape-sugar or glucose be substituted for cane-sugar, honey, and glycerin in pharmaceutical preparations? Give a practical essay on the subject.

Accepted by Charles B. Allaire, Peoria, Ill.

13. Gentian. The presence or absence of tannin in the root of Gentian alutea. The statements on this subject are conflicting.

Accepted by E. L. Patch, Boston, Mass.

14. What is the nature of the free acid contained in fluid extract of taraxacum; is it augmented in quantity by age and exposure; does a similar change take place in the root collected in accordance with the Pharmacopœia, and kept with or without special precaution?

Accepted by A. G. Vogeler, Chicago, Ill.

15. Give working formulæ for the various pharmaceutical preparations of cod-liver oil in use in the United States and, as may appear desirable, those from other countries.

Accepted by H. C. Griffith, Niagara Falls, New York.

16. Guarana. Determine the best method for its extraction, so as to secure all the guaranine with the least possible quantity of percentage-strength of alcohol. Determine a rapid and pharmaceutically accurate method for the assay of the alkaloid in the various preparations, and in the powder.

Accepted by J. Feemster, Cincinnati, O.

17. It is desired to ascertain the solubility of the officinal chemicals in alcohol of the sp. gr. 0.941 at 15.5 C. = 60° F., and at its boiling point. The method should be stated.

Accepted by P. C. Candidus, Mobile, Ala.

18. Examine the methods for determining the presence of foreign substances in beeswax, with a view to their accuracy.

Accepted by J. W. Pratt, Boston, Mass.

19. Examine the hypophosphites of commerce, and ascertain the percentage of these hypophosphites contained in them.

Accepted by W. C. Dunker, Boston, Mass.

20. How do the commercial bismuth preparations compare with the requirements of the U. S. Pharmacopœia?

Accepted by P. W. Bedford, New York.

21. Jaborandi. Determine the best methods for making a fluid extract, an extract, and for extracting its active principle (pilocarpine).

Accepted by Geo. W. Kennedy, Pottsville, Pa.

22. Ergot contains a large quantity of fixed oil which sometimes interferes with percolation, and which the British Pharmacopœia removes by ether. May petroleum benzin be used for the same purpose, and without injuring the medicinal properties of the ergot? What quality of benzin (sp. gr., boiling point, etc.) is the best adapted for the purpose; may the fixed oil be used either in medicine or in the arts?

Accepted by Thomas D. Goodale, Boston, Mass.

23. It has been asserted that much difficulty has been experienced in cultivating some species of medicinal plants, owing to the failure of the seed to germinate. Would any special treatment of such seeds facilitate their germination?

Accepted by Wm. Saunders, London, Ont., Canada.

24. The bark of Rhamnus Purshiana contains a substance which is said to strike a red color with many other substances. What is that principle?

Accepted by Nathan Rosenwasser, Cleveland, O.

25. The history of Rhamnus Purshiana.

Accepted by James G. Steele, San Francisco, Cal.

26. Frankenia grandifolia is said to contain a large proportion of chloride of sodium. What is the amount and what other characteristic principles may be present?

Accepted by John G. Groff, Newport, R. I.

27. Ointments.—The consistence, keeping qualities, etc., of our ointments made of lard are often quite unsatisfactory. Some of the vegetable fixed oils with wax or spermaceti are said to produce a more satisfactory basis for an ointment. Can such be advantageously substituted for lard in the officinal ointments?

Continued to J. M. Good, St. Louis, Miss.

28. Powdered extracts present some advantages at the dispensing counter. What solid extracts may be kept in that form advantageously, and how are they best prepared?

Accepted by C. S. Hallberg, Chicago, Ill.

29. An essay on Gelsemium sempervirens, embracing the question as to what principle its activity is due, and whether the green root possesses an advantage over the dry.

Continued to G. J. Luhn, Charleston, S. C.

30. Acidum sulphuricum aromaticum, of the U. S. Pharmacopœia, upon standing, deposits a precipitate. How can this be remedied? Give a working formula with specimens of the finished product.

Continued to A. L. Snyder, Bryan, O.

31. Tinctura ferri chloridi, of the U. S. Pharmacopœia, frequently lets fall a precipitate. Is this due to the alcoholic strength of the preparation? If the tincture contained less alcohol and more water, would it be more permanent? Is there any valid objection to such modification of the formula?

Continued to F. M. Harper, Madison, Ind.

32. The alkaloid berberina is, by some writers, claimed to be nearly insoluble, while others claim it to be freely soluble in water. The properties of the alkaloid should be further investigated.

Continued to T. L. A. Greve, Cincinnati, O.

LIST OF DELEGATES.

COLLEGES OF PHARMACY.

New York: H. J. Menninger, Charles Rice, Fred. Hoffman, Paul Balluff, and W. M. Oliffe. *Washington, D. C.:* W. S. Thompson, Oscar Oldberg, John R. Major, R. B. Ferguson, Charles Becker. *Chicago:* E. H. Sargent, Thomas Whitfield, R. H. Cowdrey A. E. Ebert, A. G. Vogeler. *Massachusetts:* G. F. H. Markoe, T. Doliber, G. F. Dinsmore, B. F. Stacy, F. H. Butler. *St. Louis:* O. A. Wall. *Cincinnati:* J. H. Feemster, W. J. M. Gordon, E. C. Wayne, E. Goodman, J. U. Lloyd. *Philadelphia:* A. Robbins, S. S. Bunting, R. Keys, C. W. Hancock, C. A. Heinitsh. *Pittsburgh:* F. W. Walker. *Montreal:* H. S. Evans. *Ontario:* Wm. Saunders, E. Harvey. *Louisville:* E. Scheffer, G. A. Newman, F. J. Pfingst, V. Davis, W. Rogers. *Maryland:* L. Dohme, J. Roberts, F. Hassenkamp, W. S. Thompson, E. Eareckson.

ALUMNI ASSOCIATIONS.

Cincinnati: H. Serodine, E. Goodman, J. H. Feemster. *Massachusetts:* Thos. Doliber, Wm. W. Bartlett, F. A. Davidson, C. A. Tufts, W. C. Durkee. *New York:* B. F. McIntyre, S. H. Ambler, F. F. Knapp, L. M. Royce, J. L. A. Creuse. *St. Louis:* O. A. Wall. *Louisville:* Oscar Beckman. *Philadelphia:* R. V. Mattison. E. C. Jones, A. W. Millar, J. L. Lemberger, E. H. Hatton.

PHARMACEUTICAL ASSOCIATIONS.

Wisconsin: John A. Dadd, F. S. Slocum, T. C. Huber, F. Robinson, J. N. White. *New Hampshire:* C. S. Eastman, C. A. Tufts, C. F. Hildreth, E. S. Russell, J. A. Wiley. *North Carolina:* S. J. Hinsdale, J. C. Mends, A. W. Rowland, Wm. Simpson, E. V. Zoeller. *Connecticut:* A. F. Wood, E. A. Gessner, R. S. Woodruff, F. H. Chapin, C. E. Bristol. *Kings County:* E. R. Squibb, G. N. Baker, W. P. De Forest, E. A. Sayre, L. F. Perkins. *South Carolina:* G. J. Luhn, B. F. Moise, C. F. Rankin, A. W. Eckel, C. P. Aimar. *Vermont:* A. W. Higgins, A. O. Gates, C. S. Boynton, E. C. Lewis, F. H. Chapman. *Iowa State:* A. R. Townsend, J. W. Satterthwait, A. Conrad, C. R. Wallace, G. H. Schaeffer. *New Jersey:* G. H. White, C. B. Smith, R. J. Shaw, D. W. Brant, A. P. Brown. *Newark:* E. P. Nichols, C. Holzhauer, B. W. Vandervoort, C. H. Dalrymple, A. M. Mills. *Pennsylvania:* J. H. Stein, J. A. Myers, C. C. Klump, Geo. Ross, S. Campbell. *New York:* Chas. H. Gaus, A. J. Inloes, L. E. Nicot, E. S. Dawson, D. C. Packard. *Kansas:* Geo. A. Ferdinand. *Ohio:* J. U. Lloyd, F. Harrington, F. J. Casper, Chas. Huston, C. W. Tobey. *Georgia:* John Ingalls, L. W. Hunt, J. W. Stanford. *Kentucky:* J. F. McKinney, E. C. Ross, Henry Megill, W. Rogers, G. A. Newman. *Province*

of Quebec: Roderick McLeod. *Literary and Scientific Society of the German Apothecaries of the city of New York:* P. Balluff, G. Ramsberger, C. Eimer, P. F. Lehlbach, H. J. Menninger.

NORTH CAROLINA PHARMACEUTICAL ASSOCIATION.

THE "old North State "(as usual), not to be behind or outdone by her various sister States of the Union, about ninety pharmacists and druggists from every section of the State met in Raleigh, on the 11th and 12th instant, and organized a State Pharmaceutical Association, with entire harmony and much enthusiasm, of which I will endeavor to give a condensed and accurate account.

On the evening of 10th inst., about forty gentlemen met in the Mayor's office to arrange preliminaries for the next day's meeting, which was quickly done. Promptly at 11 o'clock the following morning, the same gentlemen, together with about as many more who had arrived on the early morning trains, met in the Senate chamber in obedience to a call previously issued by Messrs. Nadal, Rowland, Moye, Hargraves, and Peacock, of Wilson.

After an address of welcome by Mayor Manly, on behalf of the city, and Dr. Eugene Grissom, on behalf of the medical and pharmaceutical profession, organization was at once begun by making Mr. Nadal, of Wilson, President *pro tem*, and Mr. Saunders, of Raleigh, Secretary *pro tem*.

Mr. Nadal assumed the duties of the Chair, and upon motion appointed the following Committee on Constitution and By-Laws:

S. J. Hinsdale, of Fayetteville, E. H. Meadows, of Newborn, W. C. Porter, of Greensboro, W. H. Green, of Wilmington, E. V. Zoeller, of Tarboro.

During the interval of the Committee preparing its report, the Convention discussed the propriety of drafting a pharmacy law for presentation to the Legislature, which it was finally decided to do.

Mr. Hinsdale, on behalf of the Committee on Constitution and By-Laws, read its report, which was accepted and, with few alterations and much discussion, adopted. Thereupon the Convention resolved themselves into a permanent organization under the title of "The North Carolina Pharmaceutical Association."

After a recess for dinner of two hours, the election of officers being in order, the following members were unanimously elected with the exception of Secretary and Executive Committee, who were elected by ballot:

President, E. M. Nadal, of Wilson; *Vice-Presidents*, S. J. Hinsdale, of Fayetteville, Wm. Simpson, of Raleigh, E. H. Meadows, of Newborn; *Secretary*, T. C. Smith, of Charlotte; *Treasurer*, John S. Pescud, of Raleigh; *Exec. Com.*, W. H. Green, of Wilmington, A. W. Rowland, of Wilson, Wm. Simpson, of Raleigh, F. Gallagher, of Washington, J. R. Young, of Henderson, and W. C. Porter, of Greensboro.

An invitation to hold next annual meeting in Newborn was received and accepted.

A telegram of congratulation and best wishes was received from Prof. P. W. Bedford, on behalf of N. Y. State Pharmaceutical Association, and the President was directed to telegraph a suitable reply.

A committee of ten was appointed to draft a pharmacy law and report in print the following morning. Thereupon the Association adjourned to meet at 9 o'clock A.M., August 12th.

At the proper time, the Committee on Pharmacy Law made its report, which after very much discussion and some alterations was adopted and the committee discharged. Whereupon the President appointed a committee of five upon Legislation, of which Dr. Eugene Grissom, of Raleigh, is Chairman, to give the proposed law proper attention at the next session of the Legislature. The committee was empowered to employ legal advice.

The following Permanent Committees and Delegates were appointed:

On Papers and Queries.—S. J. Hinsdale, of Fayetteville, J. C. Munds, of Wilmington, E. V. Zoeller, of Tarboro.

On Business.—S. H. Smith, of Winston, N. R. Turnstall, of Statesville, and F. W. Hancock, of Newborn.

Delegates to the American Pharmaceutical Association.—S. J. Hinsdale, of Fayetteville, C. M. Brown, of Washington, A. W. Rowland, of Wilson, U. S. Mace, of Newborn, and Wm. Simpson, of Raleigh.

After various resolutions of thanks for donations and courtesies, there being no further business, the Association adjourned to meet in Newborn, on second Tuesday in August, 1881.

The convention was everything that could possibly be expected, and was a matter of surprise to many. Before adjournment, the membership rolled up to the good number of one hundred and ten, all in good standing. The initiation fee is three dollars, and annual dues two dollars. It is a matter of commendation that this Association unanimously decided to at once endeavor to have passed a pharmacy law.

Our proposed law is modelled after the New Jersey law and the proposed New York law.

The Association is to elect ten members, from which the Governor appoints five as the Board of Examination.

After paying all expenses of Board, all moneys left go to the N. C. Pharmaceutical Association.

Every druggist will be required to register annually, for which a small fee is to be charged. The law will affect no one in business at the time of its passage. Physicians will have to comply to same requirements as druggists in every respect. No interference to those compounding their own prescriptions.

The Examining Board adjudicate upon all cases of abuse, fraud, adulteration, malpractice, etc. Every registered pharmacist or druggist will be held responsible for the purity of all drugs, chemicals, and preparations he may sell, excepting those in original packages from manufacturers, and "patent medicines," under penalty.

At four o'clock P.M., on Aug. 12th, about sixty members (the balance having left, mostly on account of pressing business at home), sat down to a bounteous repast at the "Yarborough House," given by their Raleigh brethren, which was much enjoyed, together with a good number of toasts that brought forth replies as good as the dinner. After which all left for home, unanimously agreed that the meeting had been a most enjoyable occasion.

E. V. ZOELLER.

TARBORO, N. C., August 16th, 1880.

Adulteration of Coffee with Chicory.—(PRUNIER.) To detect the presence of chicory in coffee, the microscopic examination is the best method, but as this is not always possible, the following method may be employed. The ground coffee is spread on a sheet of white paper. The grains of coffee present an angular fracture, whilst chicory has an amorphous appearance, and is of a darker color; the suspected grains are picked out with a needle; the coffee grains jump away from, or are split by it, whereas the chicory grains, being softer, are easily penetrated. The softer grains, when crushed carefully between the teeth, produce a gritty sensation, like fine sand. If chicory is present, its flavor also is more of an acid bitter than the aromatic bitter taste of coffee.

Chicory may be estimated in coffee as follows:—About 2 grams of dried ground coffee are sifted in a hair sieve from the fine dust, which consist of pure coffee; the larger grains are macerated with cold water for some hours, and then thrown on a piece of stretched cloth and rubbed with the fingers, when the chicory is forced through, whilst the coffee grains remain on the cloth. The coffee is then collected, dried, mixed with the dust and weighed; the loss in weight gives the weight of chicory.—*Journ. de Ph. et Chim.* and *J. Chem. Soc.*

Latakia Tobacco.—The peculiar pleasant flavor of this variety of Turkish tobacco is owing, according to W. T. T. Dyer, to the fact that it is treated with the smoke of the wood of an oak, *Quercus ruber* var.—*Trimen's Journ. of Bot.*

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

No. 768.—**Permanent Glossy Black Ink** (A. C.).

Among many other formulæ the following will probably answer your purpose:

Powdered nutgalls.....	18 parts.
Sulphate of iron.....	8 "
Gum arabic.	7 "
Pure water.....145	"

Introduce the powdered galls into a boiler, add 130 parts of water and mark the height to which the boiler is filled. Then heat to boiling under constant stirring, taking special care to prevent any of the powder from caking at the bottom, and keep the liquid for 2 hours at a brisk boil. Replace the evaporated water from time to time. When cold, pour the whole on a strainer, so as to obtain a clear filtrate. Dissolve the sulphate of iron and the gum arabic in 15 parts of water, and add this solution slowly to the former. It is best to keep this ink in a partially filled cask, as it becomes deeper black when exposed to the air. This ink may be preserved by the addition of carbolic acid, or by pouring into the cask a small quantity of coal-tar (about 1 oz. for every 5 gallons).

The gloss of such an ink may be increased by the cautious addition of sugar; but it then requires a longer time to dry.

No. 769.—**Salicylic Acid in Mixtures** (W.).

This correspondent writes: Will you please inform me if, in a mixture of salicylic acid, acetate of potassium, glycerin and water, the action of the salicylic acid is in any degree affected. Used as an antiferment, would the result be the same with free salicylic acid or combined as above?

We have every reason to believe that there would be no difference whatever in the results. The opinion has, indeed, been put forward that salicylic acid, when combined with an acetate, takes the place of the latter acid in the salt, while acetic acid is set free. But it appears from recent investigations of A. Schultz (in *Journ. f. pract. Chemie* [2] 21, 380–382) that this is not the case. In order to ascertain what substances combine with salicylic acid, this author treated solutions of substances mentioned below, with given weights of salicylic acid. The amount of unaltered acid was then determined by extracting the solutions with ether, and that of the combined acid, by extraction with ether after acidifying with hydrochloric acid. The substances to solutions of which salicylic acid was added are the following:

1. *Nitrogenous Substances.*—Asparagin, amygdalin, allantoin, urea, gelatin, albumin.

2. *Organic Salts.*—Ammonium tartrate, sodium tartrate, sodium and potassium tartrate (Rochelle salt), acid potassium tartrate (cream of tartar), calcium tartrate, ammonium, sodium and potassium malates.

3. *Inorganic Salts.*—Ammonium, sodium and potassium phosphates, calcium pyrophosphate, ammonium, sodium and potassium chlorides, and ammonium nitrate.

The experiments showed that, among nitrogenous bodies, only gelatin and urea combine with salicylic acid. And in the case of salts, that *only the sodium and ammonium salts* of acids having weaker acid properties than salicylic acid can combine with it. Potassium and calcium salts do not combine at all with salicylic acid. The same author also comes to the conclusion that the antifermentative power of salicylic acid is even greater than has been supposed by Prof. Kolbe himself.

No. 770.—**Remedy for Drunkenness** (Th.).

The supposed remedy for drunkenness (Unger's), which has been considerably advertised of late, is directed to be made by "soaking one pound of powdered Peruvian bark in one pint of diluted alcohol, straining and evaporating to ½ pint." Your failure to obtain any liquid from the bark, owing to its total absorption and retention by the latter, does not surprise us. If the directions were: 4 pints, or perhaps 1 gallon of diluted alcohol, you might succeed better. But this "remedy" is as bad as the disease. Aside from the tonic effects of the bark, is it not evident that the *alcohol* is the principal ingredient relied upon? No *remedy* has yet been discovered, nor is likely to be discovered, which will cure a *morbid habit.* And of all remedies, is it likely that alcohol will cure the *craving* for alcohol? We doubt it, and advise you not to place any reliance in such statements.

No. 771.—**Pain-Annihilator** (F. & B.).

All so-called pain-killers, pain-paints, pain-annihilators, etc., owe their efficacy to an irritating and stimulating effect upon the skin over the affected part, or else to a rapid evaporation in consequence of being partly composed of very volatile liquids. The usual constituents are: capsicum, alcohol, ether, oil of peppermint, opium, etc. Some contain more, others only a few constituents. None of them, so far as we are aware, contain anything which is likely to do harm on a sound skin; and most of them to a certain extent afford, when applied, at least temporary relief. Yet their indiscriminate use should by all means be discouraged. The exact composition of the particular preparation you inquire about is not known, but we expect a report on this subject from one of our correspondents, after the receipt of which we shall perhaps be able to give you more detailed information.

No. 772.—**Ferricyanide of Potassium.**

One of our correspondents has seen an article, some time ago, on a new process for making ferricyanide of potassium by means of *peroxide of lead*, and desires to know who the author of the paper is and where the same has been originally published. Will some of our friends kindly answer this question.

No. 773.—**To Color Bay Rum** (H. & Co.).

This correspondent writes: What can be used to color Bay Rum with, so that it will hold its color when it is, by chance, placed where the sun may strike it? In using tinct. of curcuma, I find that sunlight will fade it, and take out the color.

We would recommend to use caramel, a very small amount of which is sufficient to produce the usual tint.

No. 774.—**Spanish Names of Plants** (Bert.).

If you desire to identify such Spanish names as are particularly in use in the West Indies and in Mexico, we would advise you to consult the following works:

1. *The Mexican Pharmacopœia*, 1874. 2. *Grisebach, Flora of the West Indian Islands.* 3. *Seeman, Die Volksnamen der Amerikanischen Pflanzen*, Hanover, 1851. Of more general character, and particularly applicable to Spain itself, is the following: *Colmeiro (D. Miguel), Diccionario de los Diversos Nombres Vulgares de Muchas Plantas*, etc., 8vo, Madrid, 1871. Of good use may likewise be: *Ronquillo, Diccionario de Materia Mercantil, Industrial y Agricola*, etc., 4 vols. (pp. 2,645), Barcelona (may be purchased from D. Fed. Prats Grau, Calle de Valencia 332, Barcelona, Spain, for 25 pesetas, exclusive of postage).

No. 775.—**Elixir of Calisaya, and Iron Salts** (M. M. K.).

Your first and third question both refer to one and the same subject and may be answered together:

1. Can citrate or pyrophosphate of iron be added to a mixture of elixir of calisaya, 4 fl. oz., and simple elixir, 12 fl. oz. without producing any inky coloration?

2. Can iron salts be combined with vegetable preparations without the taste becoming brackish, and the color dark?

Whenever *ferric* salts (salts of the sesqui-oxide) of iron are added to a liquid containing tannin, a bluish-black precipitate is produced. If citric, tartaric, muriatic, etc., acids are present, the precipitate is kept in solution, but colors the liquid more or less dark. With *ferrous* salts, the reaction is but very faint at first; but after a while the same thing occurs (example: black ink). Now most vegetable drugs, such as barks, roots, leaves, woods, etc., contain tannin; hence, without the removal of the latter, the addition of an iron salt will bring about this change of color, and this *cannot* be prevented. The use of the so-called *tasteless* iron-preparations, which have been said to produce no coloration in liquids containing tannin, will be found to be accompanied by the same trouble, though in a much smaller degree. Processes have been devised for removing the tannin from the vegetable preparations, for which purpose the hydrated oxide of iron, and even lead salts have been recommended. But the former does not accomplish its object completely, and the latter introduces a highly dangerous substance, which can only be gotten rid of with trouble and by the greatest care. For this reason, the makers of *Ferrated Elixir of Calisaya* have very generally given up those processes which direct a fluid extract or an infusion of cinchona bark, and have substituted for them a formula in which the active constituents of the bark, in a pure state, and in about the natural proportions, are directed to be used. This is perfectly rational and legitimate; only, they should have dropped the name "*Elixir of Calisaya*" and given it some other title indicative of its composition. The formula, which is the subject of your second question, for such an elixir works well:

Sulphate of quinia	gr. 16
" " cinchonia	" 32
" " cinchonidia	" 17
Citric acid	" 10
Alcohol	fl. ʒ 2
Water	fl. ʒ 2
Simple elixir	fl. ʒ 12

No. 776.—**Vernisine** (Ind.).

This is a *patent* dryer, lately put on the market in Europe, and intended to cause the rapid drying and hardening of oil-colors. It is said to have the advantage not to cause white colors, when mixed with them, to turn yellow. We believe the patentees are Siglär and Haeusle in Feldkirch, Vorarlberg, Austria. We do not know its composition, but will try to ascertain.

No. 777.—**Consumption of Vanilla in Europe** (Cultivator, Ceylon).

The price of vanilla both here and in Europe is subject to annual variations, depending upon the annual yield of the plantations in Mexico and on Réunion and Mauritius, both of which latter constitute the so-called Bourbon vanilla. Nevertheless, the *consumption* of the article is very regular and will encourage the starting of new plantations in other localities. From the trade reports published for a year or two back, we glean the fact that the total yield of Mexican and Bourbon vanilla was about:

	Mexican.	Bourbon.
1875		29,255 kilos.
1876	24,000 kilos.	34,322 "
1877	13,000 "	41,270 "
1878		35,000 "
1879	(low crop)	40,000 "

Most of the Bourbon vanilla is carried to France and England. England and France together import about three-fourths of all the vanilla produced.

No. 778.—**Consumption and Uses of Calabar Bean** (Cultivator, Ceylon).

We know of no other, but *medical* uses, to which the calabar bean has so far been applied. We can find no reliable figures as to the amount annually imported into England, but find frequent statements that the stock is exceedingly small. We were aware that the plant is cultivated in India, and, if you have any to sell you will find no difficulty in obtaining a remunerative price. Information as to the amount exported from Western Africa may probably be obtained by writing to the Colonial Secretary of the Gold Coast Colony at Accra, and to the Administrator of Lagos, Western Africa.

No. 779.—**"J. I. S."** Chicago.

Please read the notice at the head of this Department.

No. 780.—**Syrupus Ferri, Quiniæ et Strychniæ Phosphatum, and Syrupus Ferri, Cinchonidiæ et Strychniæ Phosphatum** (U. P.).

Of course, if there is a legitimate demand for the latter syrup, it ought to be furnished. The formula would not differ from that of the first-named syrup, except that sulphate of cinchonidia is used, instead of sulphate of quinia. Since the publication of the Report on the Revision of the U. S. Ph., of the Comm. of the Amer. Pharm. Assoc., we have followed the formula there given (p. 138), and have found it to work well. It is, however, necessary to allow the syrup to stand for some time, because, as a rule, there will be a very trifling deposit, chiefly caused by impurities in the sugar. The formula is as follows:

Take of:

White phosphate of iron, in very fine powder, *fifty-six parts*	56
Sulphate of quinia, *thirty-six parts*	36
Sulphate of strychnia, *one part*	1
Stronger phosphoric acid, spec. gr. 1.350, *two hundred and eighty parts*	280
Sugar, in coarse powder, *two thousand four hundred parts*	2400
Diluted sulphuric acid, *a sufficient quantity*	q. s.
Water of ammonia, *a sufficient quantity*	q. s.
Water, *a sufficient quantity*	q. s.
Simple syrup, *a sufficient quantity*	q. s.
Distilled water, *a sufficient quanttty*	q. s.

Dissolve the sugar in

Distilled water, *one thousand two hundred parts* ... 1200

with the aid of a gentle heat, and allow the syrup to cool.

Mix the sulphates of quinia and strychnia with

Water, *two hundred and fifty parts* ... 250

dissolve them by the aid of diluted sulphuric acid, and precipitate the quinia and strychnia by the addition of water of ammonia in slight excess. Wash the precipitated alkaloids on a muslin strainer with cold water, *five hundred parts* ... 500

then forcibly express the remaining liquid.

Triturate the precipitated alkaloids, and the phosphate of iron, with the stronger phosphoric acid, until they are dissolved; then add the syrup and strain it into a tared bottle. Wash the strainer with Simple syrup, *a sufficient quantity* ... q. s.

to make the product weigh *four thousand parts* 4000

Lastly, keep the product in well-closed bottles protected from the light.

This syrup, if made with the so-called ferr*ous* phosphate, is apt to precipitate, after a while, a sediment of basic phosphate. If made with ferr*ic* phosphate, it will generally keep clear, provided it was carefully strained. The so-called ferr*ous* phosphate of pharmacy not being strictly a ferr*ous* salt, but a mixture of ferrous and ferr*ic* salts, it cannot make much difference, if the ferric salt be entirely substituted for it. There is no need of employing the phosphate of iron in a freshly precipitated condition. It may either be kept in stock for use in preparing

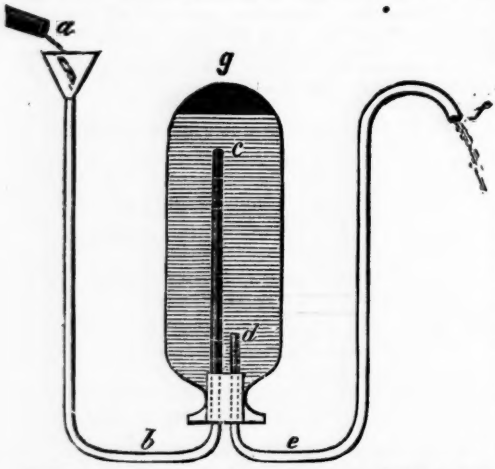
this syrup, or if it is desired to prepare it specially for the present syrup, the following will be the quantities of the ingredients required to prepare about 56 parts of ferric phosphate:

Solution of chloride of iron, *one hundred and sixty parts*	160
Phosphate of sodium, *one hundred and thirty parts*	130
Acetate of sodium, *forty-seven parts*	47
Water, *a sufficient quantity*	q. s.

A shorter formula will be given in our next.

No. 781.—**Cognac-Essence** (J. G. M. & Co.).

This is a volatile liquid, also called oil of cognac, oil of wine, huile de marc, Drusen-öl (Germ.), consisting principally of "œnanthic ether." The latter is insoluble in water, has a very strong, almost benumbing odor of wine, a sharp and disagreeable taste, boils at 225–230° C. This ether is, however, not a homogenous substance, containing also capric, caprylic and, probably, other ethers. The commercial cognac-essence is produced on the large scale by distilling wine-lees, previously pressed, and then mixed with sulphuric acid, by means of a superheating steam. The residue left in stills, provided with so-called columns, after the distillation of brandy, forms one of the principal sources of the substance in question. As the vapors which are carried over in the



distillation likewise contain alcohol, the latter is separated from the ether by being received in a Florentine flask, or in an apparatus effecting the same purpose, constructed as shown in the cut.* The condensed liquid flows into the funnel-shaped end of the tube at *a*, and from there into the inverted flask *g*, which has previously been filled completely with water, which takes up the alcohol, and causes the œnanthic ether, mixed with some alcohol, to rise to the top. The hydro-alcoholic liquid becomes opaque, owing to the separation of the ether. The siphon-tube, *f*, carries off the excess of the alcoholic liquid below. The cooler the condensed liquid is, the more complete is the separation. The crude ether must be freed from alcohol by several rectifications, and then represents a mobile, colorless, or faintly-yellow liquid, of almost stupefying wine-odor, which is used for imitating brandy and clarets, and in the preparation of certain fruit-essences. According to quality, it may be had for $10 to $60 per kilo.

No. 782.—**Oil of Ylang-Ylang and Macassar Oil** (U. S.).

This is an ethereal oil, obtained by distillation from the flowers of *Unona odoratissima* Blanco, growing in the Philippine Islands. The distillation of this exceedingly pleasant and costly oil is conducted by several German apothecaries in the Philippine Islands, particularly Sartorius, Oscar Reymann, and Ad. Roensch, of Manilla. According to Gal (*Comptes rend.*, 1873, 1,482) the oil appears to contain benzoic ethers. Prof. Flückiger (*Arch. d. Pharm.*, Jan., 1879) finds that it yields a crystalline compound with bisulphite of sodium. The oil is known since about 1864; the plant itself has been described by Blanco in 1837 (*Flora de Filipinas*, Manilla, 1837). The price of the oil has considerably receded since it was first put on the market. Our latest advices (from Messrs. E. Sachsse & Co., of Leipzig) quote the finest quality of Sartorius' oil at 540 marks ($128.52) per kilo.

Unona is a member of the family *Anonaceæ*, which contains other plants more or less related to Unona, possessing an essential oil of fine odor. *Artabotrys odoratissimus* R. Br. termed *kolaka* on Celebes, is a climbing plant, the flowers of which have a very fine odor. *Artabotrys intermedia* Hassk. furnishes an essential oil very much used on Java, and known under the name *minjak-kenangan*. *Unona odorata* Lmk., now cultivated in most hot countries, and called *canang* in the Moluccas, has odoriferous flowers, which are used, together with those of *Champac* (*Mitchelia Champaca L.*), some tumeric and cocoa-nut oil, to prepare a highly aromatic, liquid pomade, called *borbori* or *borriborri*, which is much esteemed for anointing the hairs, and the whole body, particularly during the cold and rainy season, as a preventive and cure of fevers. According to Guibourt, this is the oil which is known or imitated in Europe, and sold under the name of *Macassar Oil*. Compare Baillon, Hist. nat. des Plantes, I., 273.

* Copied after "*Die Weinlaube*," June 27th, 1880, page 309.

CORRESPONDENCE.

EDITOR OF NEW REMEDIES, N. Y.

DEAR SIR:—Having been selected by the Paris Committee (Messrs. Ranvier and Dumontpallier) having charge of the subscription for a monument or memorial to the late Prof. Claude Bernard, to represent them in the United States, I beg leave to be allowed to use your columns for the purpose of appealing to the members of the medical profession and all others interested, to subscribe to this worthy project.

I need hardly remind your readers of the great debt which every practising physician owes to the labors of the illustrious physiologist whose memory we are asked to honor in this way.

All inquiries and subscriptions in the shape of bank checks or postal money-orders should be addressed to me.

Trusting that I shall have the advantage of your active personal support in this matter, I remain, yours, very respectfully, E. C. SEGUIN, M.D.

NEW YORK, 41 W. 20th St., July 31st, 1880.

EDITOR OF NEW REMEDIES:—In your June number you give formulæ for "Nasal Bougies" and ask for information from those who make use of them, giving their experience, etc. I have experimented with them and find no trouble in making a very nice bougie. My object in experimenting was to find a formula for "uterine crayons," and I find an obstacle in this, that while I can get a soft bougie suitable for inserting into the nose, I cannot get one sufficiently stiff to insert into the uterus. By omitting the glycerin I get one too hard and dry, which is calculated to injure the womb by inserting; in reducing the quantity of water and glycerin, the mass is too thick to run in moulds. Can you or your readers suggest a formula?

I am surprised our manufacturers do not place them in the market and at reasonable price. J. S. CRAIGEN.

CUMBERLAND, MD.

Our readers are requested to suggest a suitable formula, if possible.—ED. N. R.

PRESCRIPTIONS AND FORMULÆ.

We shall be obliged if our readers, who make use of these formulæ, will inform us of their experience with them, and note any errors or modifications worthy of attention.

To make Rancid Butter Sweet.—According to a recent German patent, granted to Dr. Spormann, of Hamburg, rancid butter may be made sweet by kneading it with perfectly clear lime-water, in the proportion of 5 parts of butter to 1 part of lime-water. With one pound of butter the kneading will require about five minutes. Butter thus treated takes a bright-yellow color. After the lime-water is poured off, the butter is washed with pure, clear water, mixed with sufficient salt, and is then ready for use.—*Chem. Zeit.*, No. 19. [The application of strong bases to neutralize the free fatty acids in rancid butter is not new.]

Remedy for Recent Cold in the Head.—RODOLFO RODOLFI recommends, from personal experience, the chewing of 2 to 3 dried leaves of *Eucalyptus globulus*, as a sovereign remedy for cold in the head and coryza, provided they are recent and not chronic. The effect is said to make itself felt decidedly in about half an hour.—*Pharm. Zeit.*

Morison's Pills.—Two kinds are in the market. The No. 1 are milder. Aloes, 10 g.; cream of tartar, 5 g.; senna, 5 g.; made into .13 g. pills and rolled in cream of tartar.—*Bosredon.* Hager found that the pills as imported into Germany were prepared from aloes, 10 g.; gamboge, 4 g.; scammony, 2 g.; jalap resin, jalap root, and marshmallow root, of each 10 g., made into 350 pills and rolled in cream of tartar.

No. 2 consist of aloes, 20 g.; colocynth, 15 g.; gamboge, 15 g.; jalap, 10 g.; cream of tartar, 10 g.; made into .13 g. pills and rolled in cream of tartar.—*Bosredon.* The pills imported into Germany were found by *Hager* to consist of aloes, 20 g.; gamboge, 2 g.; cream of tartar, 12 g.; marshmallow root, 10 g., divided into 350 pills, rolled in a mixture of cream of tartar 3 p. and turmeric 1 p.

Previously *Hager* gave the following formulæ:—No. 1: Aloes, jalap resin, jalap root, and marshmallow root, of each 50 p.; gamboge, 20 p.; scammony, 10 p.; each pill containing .03 g. aloes, rolled in cream of tartar.

No. 2: Gamboge, 10 p.; aloes, 100 p.; cream of tartar, 60 p.; marshmallow root, 50 p.; each pill containing .1 g. aloes, rolled in a mixture of cream of tartar and turmeric.—*Hager.*

Allcock's Porous Strengthening Plaster.—A brown plaster spread on shirting, and pierced with holes like a sieve. The plaster mass seems to be made by heating and melting together caoutchouc, Burgundy pitch, olibanum, and myrrh, with the aid of turpentine oil.—*Hager.*

Analeptic Pills (Robert James, England), "for rheumatism, indigestion, loss of appetite, giddiness, etc." Rufus pill, ammoniacum, and James' fever powder made into pills, with hocus pocus of various kinds!—*Wittstein.*

Blancard's Pills (Paris), recommended for "various female diseases, chlorosis, etc."—A solution of iron iodide, prepared from .41 g. iodine, is made into syrup with 5 g. clarified honey, marshmallow-root powder and licorice root powder, of each .35 g., are added, and further evaporated till a pill mass is formed. The pills are rolled in iron powder and coated with ethereal solution of tolu balsam.—*Landerer.*

Cauvin's Pills.—Recommended as "a purgative in most diseases." Thirty pills containing gamboge, 1.25 g.; aloes, 2 g.; jalap, 2 g.; rhubarb, .6 g. Each pill has a coating of gum or dextrine containing saffron.—*Hager.*

Pate Pectorale (Georgé, Epinal).—"For coughs, hoarseness, and other affections of the organs of respiration." An extract of 3 centigrams saffron, 12 g. licorice root, and 250 g. water, mixed with a solution of 200 g. gum arabic in 400 g. decoction of marsh mallow, reduced to a stiff extract, mixed with the whites of six eggs beaten to a froth, and lastly 165 g. powdered sugar (*Frickhinger*). 12 kilos gum arabic, 8 kilos sugar, 250 g. liquorice root, 5 g. morphia hydrochlorate, 12 litres water (*Lahasche*).

TRADE NOTES AND NOVELTIES.

[*Under this heading the Editors will notice such novelties in "Sundries," Apparatus, Preparations, etc., as may be brought to their attention. Samples, circulars, etc., should be accompanied with cuts, when possible, and addressed to the Editor of* NEW REMEDIES, 27 *Great Jones Street, New York.*]

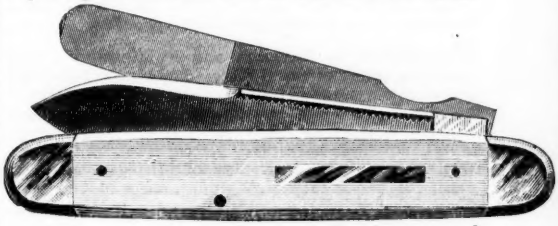
Taffy-Tolu Chewing-Gum is a specialty of MR. JOHN COLGANN, of Louisville, Ky. What appears to be a spruce gum is incorporated with Tolu balsam and sugar so as to give it an agreeable flavor, and it is then made into flat cakes which are again subdivided by transverse grooves to render it easily fracturable into fragments of convenient size. Each of these lozenges is wrapped in a separate paper and six dozen in bundles of six each are packed in a pasteboard box, so as to make a convenient package.

The flavor of the gum is very agreeable, but passes away after the mass has been chewed for a short time, leaving a taste of spruce behind.

The use of a gum of this character is not only a palliative for the habit of tobacco-chewing, but when a small bit is chewed after a meal the secretion of saliva and of gastric juice is stimulated, and those who suffer from indigestion in consequence of a want of the latter fluid, are sometimes very much benefited by this simple procedure.

Strong's Arnica Jelly is a carbolated preparation, composed, apparently, of paraffins, the odor of which has been covered by bitter almond oil. It is manufactured by C. H. STRONG & Co., and recommended as an application for cuts, bruises, abrasions, burns, etc. A peculiarity is the convenient arrangement for transporting the remedy, it being placed in metal tubes with screw caps such as are employed for artists' colors.

A Spatula-Knife.—Physicians who are in the habit of dispensing medicines are often in want of a convenient



spatula for measuring powders, spreading cerates, or of or for the extemporaneous manufacture of pill-masses. A pocket-knife blade is usually made to do duty in the former case and an ordinary stiff case-knife in the latter. Here is something better. MAHER & GROSH, of Toledo, Ohio, manufacturers of fine cutlery, make a knife having a spatula blade in addition to an ordinary blade, which is exactly the thing for these purposes. The above illustration shows its exact size and form, and it only remains for us to say that the workmanship of the sample sent us is first-rate; the materials excellent, and that $1.50 sent to them by mail will secure the return of a tool that is guaranteed to be all that is claimed for it.

ITEMS.

Mr. James Thornton Shinn, the recently elected President of the American Pharmaceutical Association, was born in the city of Philadelphia, January 9th, 1834. His education as a druggist was begun in the store of Charles Ellis & Co., a firm long known as one of the foremost in the business in that city. He graduated in the year 1854 at the Philadelphia College of Pharmacy. In the year 1855 he engaged in the retail drug business at the north-east corner of Broad and Spruce streets, and soon won for himself a reputation as an exact and skilful pharmacist. About the year 1860 he removed to the south-west corner of Broad and Spruce streets, where he has since continued the business. His store has long been recognized as one of the first in the city. Soon after graduation he was elected a member of the College of Pharmacy, and was subsequently made one of its trustees. In 1860 he became a member of the American Pharmaceutical Association. In 1872 the legislature of Pennsylvania enacted a law which has for its object the supervision of the retail drug business of that State. A board of examiners was created under it for Philadelphia, whose duties consist in compelling a recognition of a high standard of pharmaceutical skill in all apothecaries and druggists of the city. Mr. Shinn has been from the first a leading member of the Board, and for a long period its secretary, and his zeal and energy in his duties in this connection are widely known and appreciated.

JAMES THORNTON SHINN.

New Jersey Board of Pharmacy.—The following members of the New Jersey State Pharmaceutical Association have been appointed by Governor McClellan as the Board of Pharmacy, to serve three years (until 1883):

Charles Holzhauer of Newark (*President*); Gustave A. Mangold, of Trenton (*Secretary*); William R. Laird, of Jersey City (*Treasurer*); R. W. Vandervoort, of Newark; and Albert P. Brown, of Camden.

The next quarterly meeting of the board will be held at Patterson, on Thursday, October 14th, 1880.

Committee of Revision and Publication of the Pharmacopœia of the U. S. of America.—This Committee held a general meeting at Saratoga, on September 13th and the following days, and transacted a large amount of important business. The following changes in its composition have taken place: Prof. A. B. Prescott, M.D., of the University of Michigan, has been elected successor to Prof. Wormley, resigned, and Prof. Emil Scheffer, of Louisville, successor to Dr. E. R. Squibb, resigned.

Crystallized Vegetable Albumin.—We learn from a recent letter by Dr. Theodor Schuchardt, manufacturing chemist at Goerlitz, Germany, that Prof. Drechsel, of the University of Leipzig, has succeeded, in the physiological laboratory, in obtaining *crystallized vegetable albumin* from Dr. Schuchardt's "protein." Detailed reports of this discovery will soon appear in German scientific journals.

Large Reward.—During the last ten years, a peculiar disease, caused by a very rapid development of a fungus upon the leaves of the coffee-plant, has caused very serious losses in the island of Java. A great many remedies have so far been tried in vain, and, as a last resort, it has now been decided to offer a premium of 250,000 florins, (=$100,500) for an effectual remedy. The conditions are as follows: (1) it must not involve a larger expense than 2 cents (1 florin of 100 cents is equal to $0.42,5 of our money) per shrub; (2) it must not interfere with the growth of the latter; (3) and it must not be detrimental to the health of the workmen. Hitherto sulphur and lime have been much employed, but they are not satisfactory. Eventual propositions must be sent to the Director of the Agricultural Society in Java: the proposed remedies will be examined by a commission, and tried during two years upon five coffee plantations. If, after the lapse of this time, the remedy proves to be effectual, the premium will be paid. This is to be raised by an annual tax of one florin for each picul (133⅓ lbs.) which has been produced by each planter, on an average for three years.

Dr. Karl Philip Falck, Professor of Pharmacology, Pharmacodynamics, Toxicology, and Receptology at the University of Marburg, born March 1st, 1817, died on June 30th. He had occupied the academic chair for over thirty years, and was recognized as a prominent authority in his department of science.

PHARMACEUTICAL CALENDAR.—Oct.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

Date.	Society Meetings.
1st, Fri.	Phila. Coll. Ph.—Introduct. Lecture.
4th, Mon.	Pittsburgh Coll. Ph.—Quart. Meet.
	Erie County Ph. Ass.—Monthly Meet.
5th, Tues.	Phila. Coll. Pharm —Trust. Meet.
	Chicago Coll. Ph.—Semi-annual Meet.
	Vermont Ph. Ass.—Meets at Brattleboro.
	Maryland Coll. Ph.—Trust. Meet.
6th, Wed.	Cincin. Coll. Ph.—Lectures begin.
7th, Thur.	N. Y. Coll. Ph.—Trustees' Meet.
	Louisville Coll. Ph.—Pharm. Meet.
	Phila. Coll. Ph.—Alumni Social Meet.
	Massach. Coll. Ph.—Trust. Meet.
11th, Mon.	Rhode Island Pharm. Assoc.—Quart. Meet. (Providence).
12th, Tues.	St. Louis Coll. Ph.—Pharm. Meet.
	New Hampshire Ph. Ass.—Meets at Nashua.
	National Coll. Ph.—Trust. Meet.
	Massach. Coll. Pharm.—Pharm. Meet.
	Kings Co. Pharm. Soc.—Monthly Meet.
	Pittsburgh Coll. Ph.—Trust. Meet.
13th, Wed.	Cincinnati Coll. Ph.—Business Meet.
14th, Thur.	Newark Pharm. Assoc.—Monthly Meet.
	N. Y. Germ. Apoth. Soc.—Monthly Meet.
	Louisville Coll. Ph.—Directors' Meet.
	Maryland Coll. Ph.—Meeting.
	New Jersey State Board of Pharmacy—Meets at Patterson.
19th, Tues.	St. Louis Coll. Pharm.—Trust. Meet. and Alumni Meet.
	Phila. Coll. Ph.—Pharm. Meet.
20th, Wed.	Michigan Pharm. Ass.—Annual Meet.
21st, Thur.	N. Y. Coll. Pharm.—Quart. Meet.
15th, Mon.	Missouri State Ph. Ass.—Meets at Moberly.